ORDER NO. AD8804040C2

Service Manual

Amplifier

Stereo Double Cassette Amplifier

DOLBY SYSTEM

SU-X930

Color

(K).....Black Type

Area

Color	Area
(K)	(E) .....Continental Europe.
(K)	(EH) .....Holland.
(K)	(EB) .....Belgium.
(K)	(EF) .....France.
(K)	(EK) .....United Kingdom.

SPECIFICATIONS

(DIN 45 500)

■ AMPLIFIER SECTION

40 Hz ~ 16 kHz continuous power output	
both channels driven	2 x 46 W (THD 1%,8Ω)
1 kH continuous power output	
both channels driven	2 x 50 W (THD 1%,8Ω)
Total harmonic distortion	
half power at 1 kHz	0.009% (8Ω)
Power bandwidth	
both channels driven,-3dB	20 Hz ~ 40 kHz (8Ω)
Damping factor	22 (8Ω)
Input sensitivity and impedance	
PHONO	2.5mV/47 kΩ
TUNER	200mV/47 kΩ
CD	250mV/4.7 kΩ
AUX	150mV/22 kΩ
Frequency responce	
PHONO	RIAA standard curve
	30 Hz ~ 15 kHz, + 0.8 dB,-0.8 dB
CD	20 Hz ~ 50 kHz (-3 dB)
AUX	20 Hz ~ 50 kHz (-3 dB)
Tone controls	
BASS	50 Hz, + 10 dB ~ -10 dB
TREBLE	12.5 kHz, + 10 dB ~ -10 dB
SUPER BASS	80 Hz, + 10 dB
Load impedance	8 Ω ~ 16 Ω

■ CASSETTE DECK SECTION

Track system	4-track,2-channel
Heads	
REC/PLAY (DECK A)	Solid Permaloy head
PLAY (DECK B)	Solid Permaloy head
Erasing (DECK A)	Double-gap ferrite head
Motors	DC servo motor
Recording system	AC bias,100 kHz
Erasing system	AC erase,100 kHz
Tape speed	4.8 cm/sec.(1-7/8 ips)
Frequency response	
NORMAL	30 Hz ~ 15 kHz (DIN)
	40 Hz ~ 14 kHz, + 3 dB ~ -6dB
CrO_2	30 Hz ~ 16 kHz (DIN)
	40 Hz ~ 15 kHz, + 3 dB ~ -6dB
METAL	30 Hz ~ 17 kHz (DIN)
	40 Hz ~ 16 kHz, + 3 dB ~ -6dB
S/N (CrO_2 type tape)	
DOLBY NR on	65 dB (CCIR)
DOLBY NR off	56 dB (A-WTD)
Wow and flutter	0.1% (WRMS)
Fast Forward and Rewind Time	Approx. 110 seconds with C-60 cassette tape

■ GENERAL

Power consumption	235 W
Power supply	
For United Kingdom	AC 50 Hz/60 Hz,240 V
For Others	AC 50 Hz/60 Hz,220 V
Dimensions (W x H x D)	360 x 229 x 300 mm
	(14-3/16"x9"x11-13/16")
Weight	7.2 kg (15.9 lb)

Notes:

1. Specifications are subject to change without notice. Weight and dimensions are approximate.
2. Total harmonic distortion is measured by the digital spectrum analyzer (H.P. 3045 system).
3. Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation. "Dolby" and the double-D system are trade marks of Dolby Laboratories Licensing Corporation.

Technics

Matsushita Electric Industrial Co., Ltd.
Central P.O. Box 288, Osaka 530-91, Japan

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■ BEFORE REPAIR

(1)Turn off the power supply. Using a 10Ω, 5W resistor connect both ends of power supply capacitors (C701,C702,3300μF) in order to discharge the voltage.

(2)Before turning the power supply on , after completion of repair , slowly apply the primary voltage by using a power supply voltage controller to make sure that the consumed current at 50Hz/60Hz in NO SIGNAL mode should be shown below with respect to supply voltage 220V/240V.

Power supply voltage	AC220V	AC240V
Consumed current 50Hz	105 ~ 215mA	100 ~ 210mA
Consumed current 60Hz	105 ~ 215mA	100 ~ 210mA

■ LOCATION OF CONTROLS AND FUNCTIONS

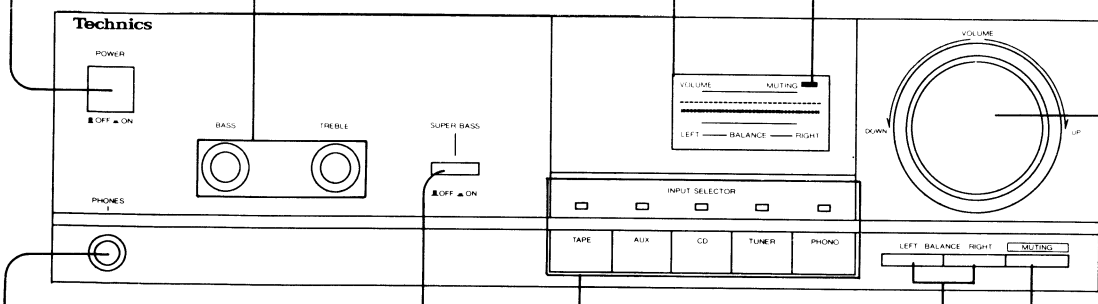
Amplifier section

Power switch (POWER)

Tone controls (BASS/TREBLE)
The bass control is for the low-frequency sound range, and the treble control is for the high-frequency sound range.

Volume/balance level indicators (VOLUME/BALANCE)
These indicators usually show the volume level; when the balance control is pressed, however, the position of balance level is displayed for five seconds, after which the display returns again to indication of the volume level.

Muting indicator (MUTING)



Volume control (VOLUME)

Super bass switch (SUPER BASS)
Low frequency sounds are reinforced when this button is pressed.

Input selectors/indicators (INPUT SELECTOR)
These selectors are used to select the sound source to be heard, such as a disc, radio broadcasts, etc. The corresponding input selector indicator illuminates during operation to indicate the selected sound source.

Muting switch (MUTING)
Press this switch when a disc is being changed or to temporarily reduce the volume level (approx. 1/10).

Headphones jack (PHONES)

Balance controls (BALANCE)

Cassette deck section

When using "DECK A"

Eject button (▲ EJECT)

"DECK A" counter/reset button (DECK A COUNTER/RESET)
This indicates the amount of tape travel of "DECK A".
When this button is pressed, the readout will be reset to "000".

Recording indicator (REC)

Playback indicator (PLAY)

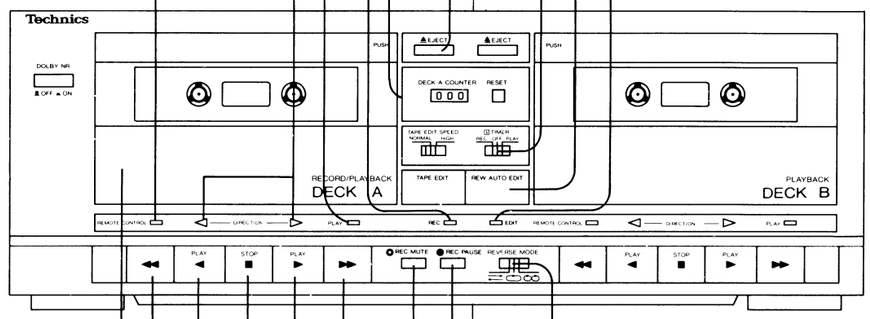
Direction indicators (DIRECTION)

Remote-control signal indicator (REMOTE CONTROL)
This indicator illuminates when the remote-controle transmitter is operated.

Timer stand-by switch (TIMER)
This switch is to be used in order to perform an unattended recording or preset playback operation.

Automatic rewind/edit-recording button (REW AUTO EDIT)
This button can be used to automatically rewind tapes to their beginning and then begin an edit-recording.

Editing mode indicator (EDIT)
This indicator illuminates when an edit-recording begins.



Cassette holder
Be sure to press the upper side of the cassette holder (marked "PUSH") to close it.

Rewind/fast-forward button (◀◀)

Reverse-side playback button (PLAY/◀)

Stop button (STOP/■)

Forward-side playback button (PLAY/▶)

Fast-forward/rewind button (▶▶)

Record-muting button (● REC MUTE)

Recording pause button (● REC PAUSE)

Reverse mode selector (REVERSE MODE)
(See below.)

When using "DECK B"

Editing tape-speed selector (TAPE EDIT SPEED)

Edit-recording button (TAPE EDIT)
This button is used when an edit-recording is made.

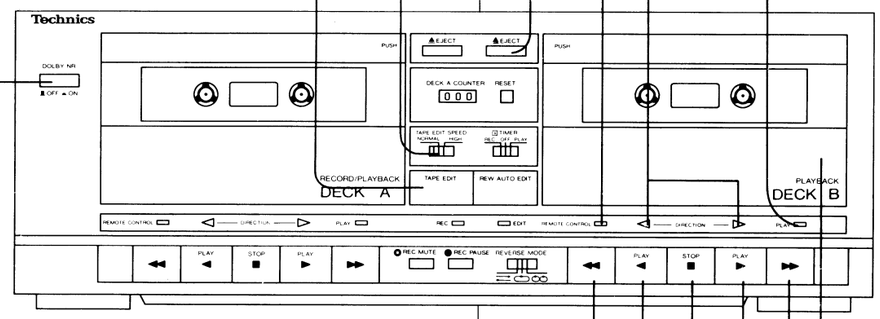
Dolby noise-reduction switch (DOLBY NR)

Eject button (▲ EJECT)

Remote-control signal indicator (REMOTE CONTROL)
This indicator illuminates when the remote-controle transmitter is operated.

Direction indicators (DIRECTION)

Playback indicator (PLAY)



Cassette holder
Be sure to press the upper side of the cassette holder (marked "PUSH") to close it.

Fast-forward/rewind button (▶▶)

Forward-side playback button (PLAY/▶)

Stop button (STOP/■)

Reverse-side playback button (PLAY/◀)

Rewind/fast-forward button (◀◀)

Reverse mode selector

For playback ("DECK A" and "DECK B")

"⇄" (one way):
Only one side of the tape on "DECK A" or "DECK B" is played; when the playback finishes, the tape will stop automatically.

"↻" (repeat):
Both sides of the tape on "DECK A" or "DECK B" is played; tape play will continue until the stop button is pressed.

"∞" (series):
Both sides of the tape on "DECK A" and "DECK B" are played continuously; tape play will continue until the stop button is pressed.

For recording (only "DECK A")

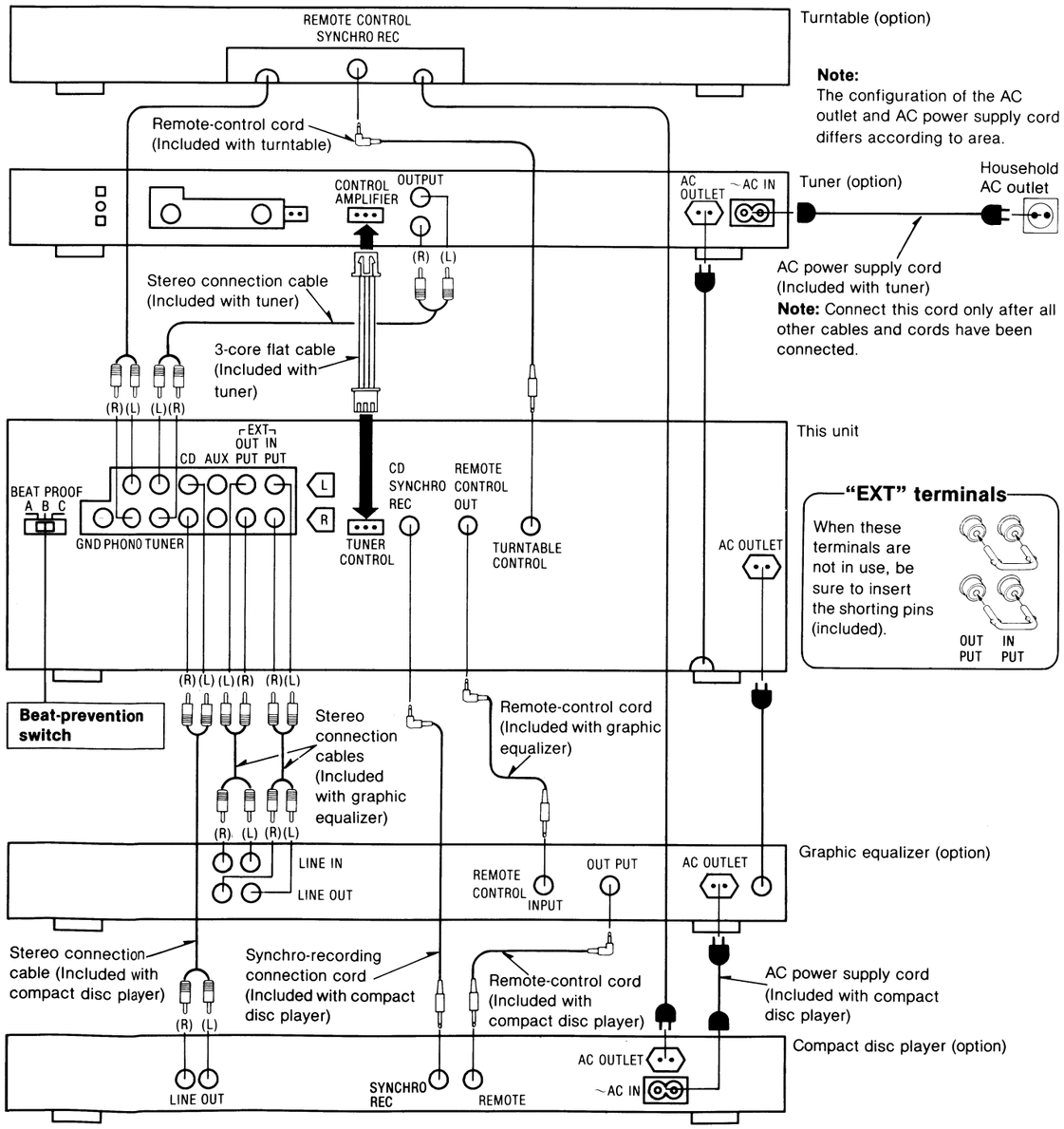
"⇄" (one way):
When recording on only one side of the tape.

"↻" (repeat)/"∞" (series):
When making a continuous recording on both sides of the tape.

Note:
Recording will stop after recording on the reverse side of the tape is completed. For continuous recording on both sides of the tape, it is necessary to begin recording on the forward side of the tape (the side facing outward).

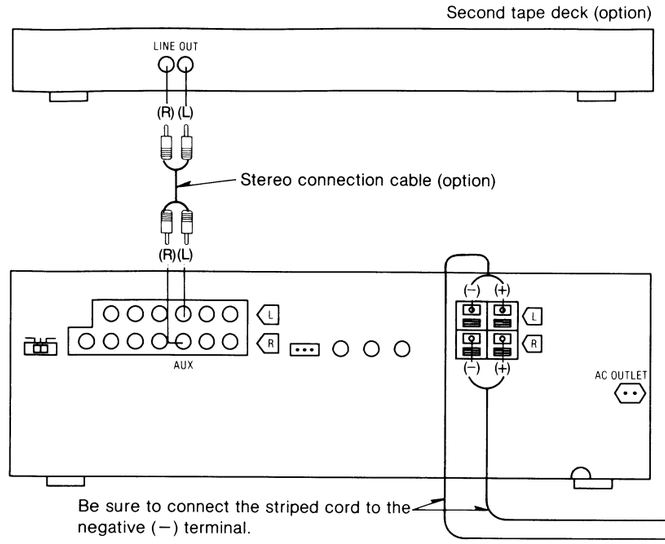
■ CONNECTIONS

- Although the synchro-recording connection cord and the remote-control cords are differentiated in the figure below, actually they are the same shape.
- For a turntable with a ground wire, be sure to connect the ground wire to the "GND" terminal of this unit. (Refer to the operating instructions of the turntable.)
- Do not connect video-related equipment (such as a TV, etc.) to the AC outlets of these components. (These outlets are especially for audio equipment.) Also do not exceed the indicated power ratings when connecting to these outlets.
- The tuner's power outlet is interlocked with the power "STANDBY ⏻ . ON" switch of the tuner.
- If the graphic equalizer is not used in combination with these components, connect the AC power supply cord of the compact disc player to the "AC OUTLET" of this unit and connect the remote-control cord of the compact disc player to the "REMOTE CONTROL" terminal ("OUT") of this unit.



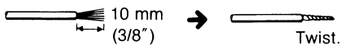
Connections to other equipment

For connection of a second tape deck (for playback only), etc.



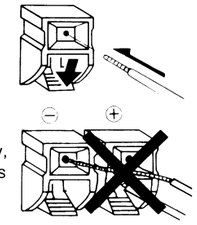
Connection of speaker systems

① Strip off the outer covering, and twist the center conductor.

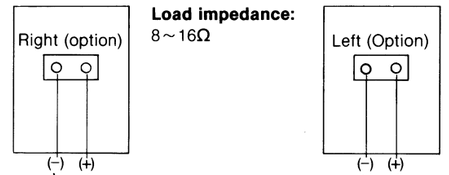


② Press the pushbutton, and insert the core until it can no longer be seen.

③ Release the pushbutton, and pull the cord gently to be sure that it is secure.



Note:
To prevent damage to circuitry, never short plus (+) and minus (–) speaker terminals.

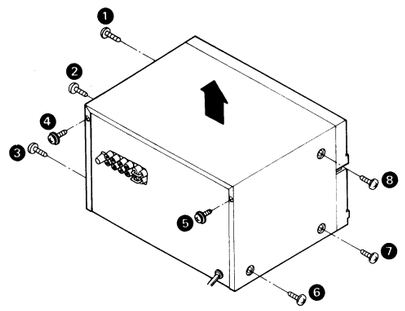


■ DISASSEMBLY INSTRUCTIONS

Ref. No. 1 — How to remove the cabinet

Procedure 1

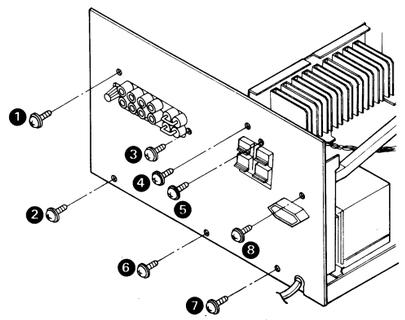
1. Remove the 8 screws (❶~❽).
2. Remove the cabinet in the direction of the arrow.



Ref. No. 2 — How to remove the rear panel

Procedure 1→2

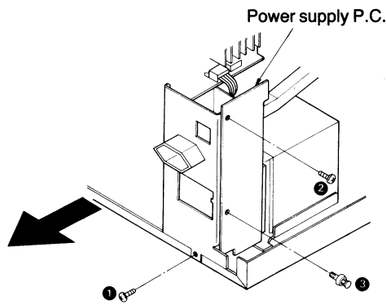
- Remove the 8 screws (❶~❽).



Ref. No. 3 — How to remove the power supply P.C.B.

Procedure 1→2→3

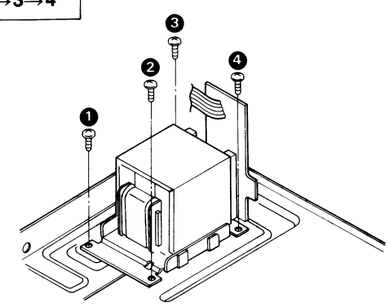
1. Remove the 1 screw (❶).
2. Remove the power supply P.C.B. in the direction of the arrow.
3. Remove the 1 screw (❷).
4. Remove the 1 rivet (❸).



Ref. No. 4 — How to remove the power transformer

Procedure 1→2→3→4

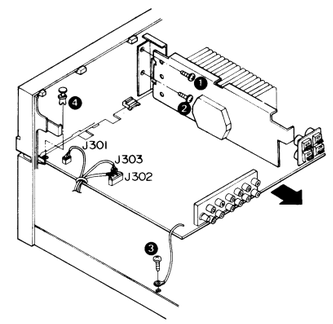
1. Remove the 4 screws (❶~❹).

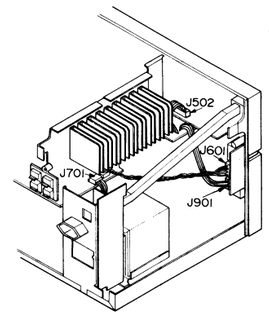


Ref. No. 5 — How to remove the main P.C.B.

Procedure 1→2→5

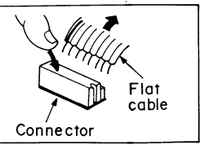
1. Remove the 4 connectors (J301, J302, J303, J601).
2. Remove the flat cables (J502, J701, J901)
3. Remove the 3 screws (❶~❸).
4. Remove the rivet (❹).
5. Remove the main P.C.B. in the direction of the arrow.





How to remove the flat cable

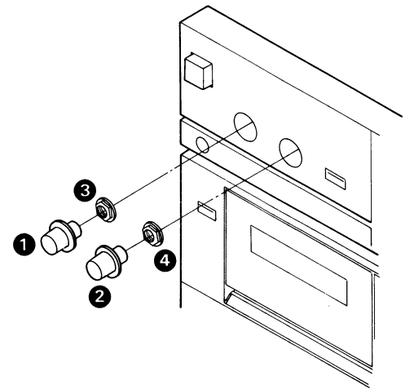
- Pull out the flat cable while pressing the connector.

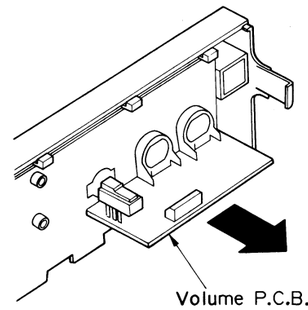


Ref. No. 6 — How to remove the volume P.C.B.

Procedure 1→2→5→6

1. Remove the 2 knobs (❶, ❷).
2. Remove the 2 nuts (❸, ❹).
3. Remove the volume P.C.B. in the direction of the arrow.

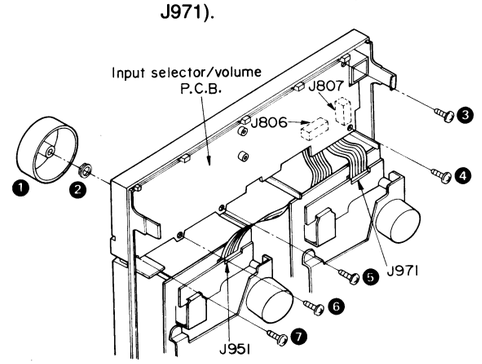




Ref. No. 7 — How to remove the input selector/volume P.C.B.

Procedure 1→2→5→6→7

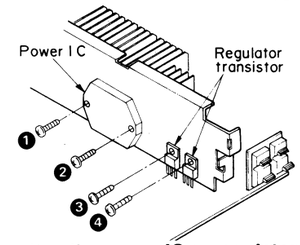
1. Remove the 1 knob (❶).
2. Remove the 1 nut (❷).
3. Remove the 5 screws (❸~❼).
4. Remove the flat cable (J806, J807, J951 J971).



Ref. No. 8 — How to remove the power IC and regulator transistor

Procedure 1→2→5→8

1. Unsolder the power IC or regulator transistor.
2. Remove the 4 screws (❶~❹).

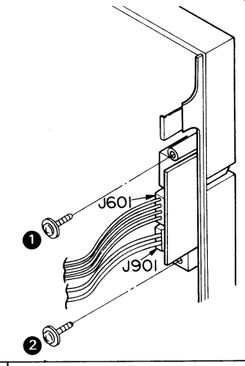


- **When mounting the power IC or regulator transistor.** Apply silicone compound (SZZ0L15) to the rear side of power IC or regulator transistor.

Ref. No. 9 — How to remove the dolby NR switch P.C.B.

Procedure 1→9

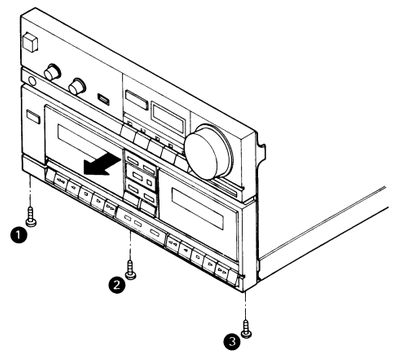
1. Remove the 2 screws (❶, ❷).
2. Remove the 1 connector (J601).
3. Remove the flat cable (J901).



Ref. No. 10 — How to remove the front panel

Procedure 1→2→5→10

1. Remove the 3 screws (❶~❸).
2. Remove the front panel in the direction of the arrow.



wer

).

n P.C.B.

1, J302,

J701, J901)

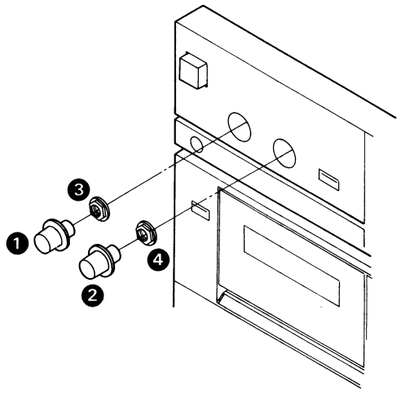
direction

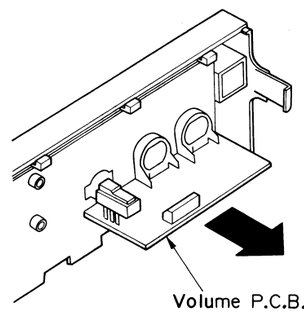
Flat cable

Ref. No. 6 — How to remove the volume P.C.B.

Procedure 1→2→5→6

1. Remove the 2 knobs (❶, ❷).
2. Remove the 2 nuts (❸, ❹).
3. Remove the volume P.C.B. in the direction of the arrow.

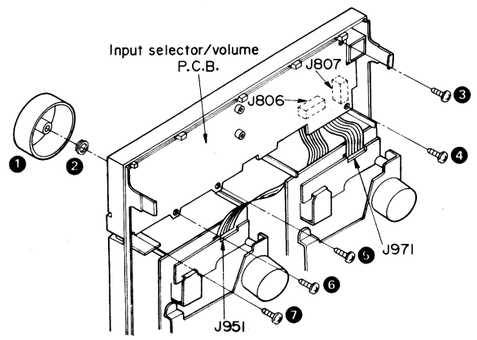




Ref. No. 7 — How to remove the input selector/volume P.C.B.

Procedure 1→2→5→6→7

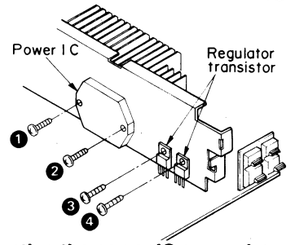
1. Remove the 1 knob (❶).
2. Remove the 1 nut (❷).
3. Remove the 5 screws (❸~❼).
4. Remove the flat cable (J806, J807, J951 J971).



Ref. No. 8 — How to remove the power IC and regulator transistor

Procedure 1→2→5→8

1. Unsolder the power IC or regulator transistor.
2. Remove the 4 screws (❶~❹).

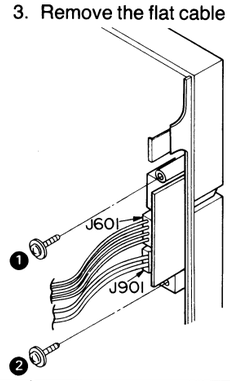


●**When mounting the power IC or regulator transistor.**
Apply silicone compound (SZZ0L15) to the rear side of power IC or regulator transistor.

Ref. No. 9 — How to remove the dolby NR switch P.C.B.

Procedure 1→9

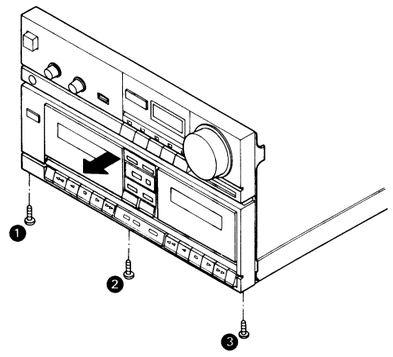
1. Remove the 2 screws (❶, ❷).
2. Remove the 1 connector (J601).
3. Remove the flat cable (J901).



Ref. No. 10 — How to remove the front panel

Procedure 1→2→5→10

1. Remove the 3 screws (❶~❸).
2. Remove the front panel in the direction of the arrow.

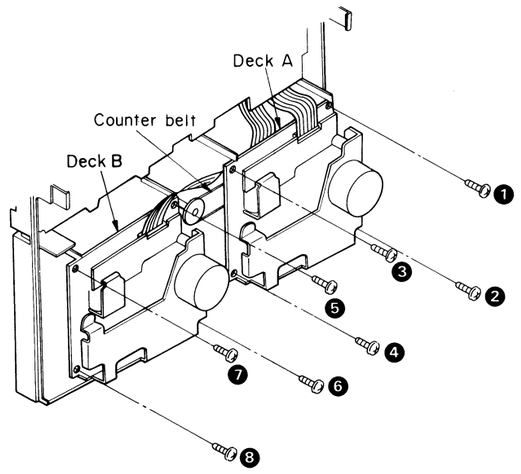


Ref. No. 11 — How to remove the mechanism unit (Deck A, Deck B)

Procedure 6→7→10→11

●How to remove the mechanism unit (Deck A).
1. Push the eject button.
2. Remove the counter belt.
3. Remove the 4 screws (❶~❹).

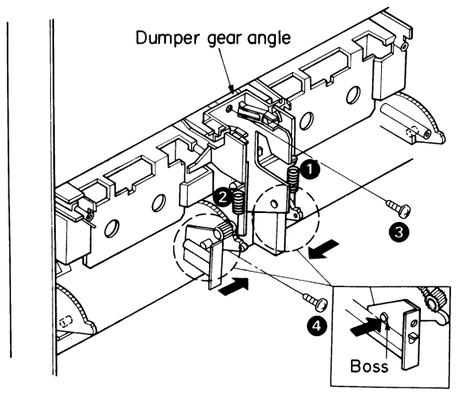
●How to remove the mechanism unit (Deck B).
1. Push the eject button.
2. Remove the 4 screws (❺~❽).



Ref. No. 12 — How to remove the dumper gear angle

Procedure 10→11→12

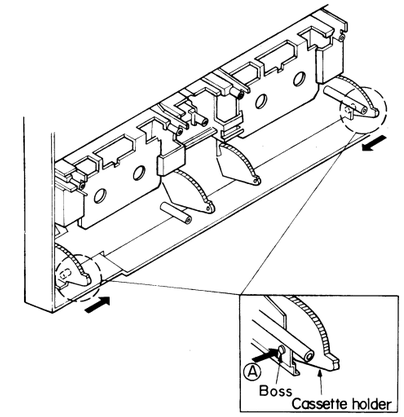
1. Remove the 2 springs (❶, ❷).
2. Remove the 2 screws (❸, ❹).
3. Press the bosses on the cassette holders to remove the dumper gear angle.

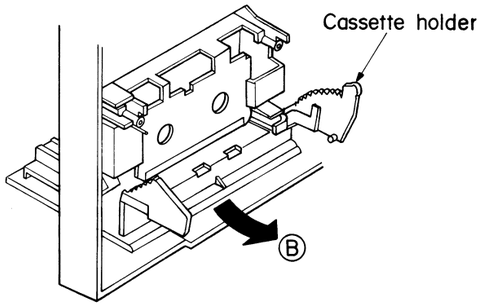


Ref. No. 13 — How to remove the cassette holder (Deck A, Deck B)

Procedure 10→11→12→13

●Push the bosses on the cassette holders in the direction of arrow Ⓐ and remove the cassette holders in the direction of arrow Ⓑ.

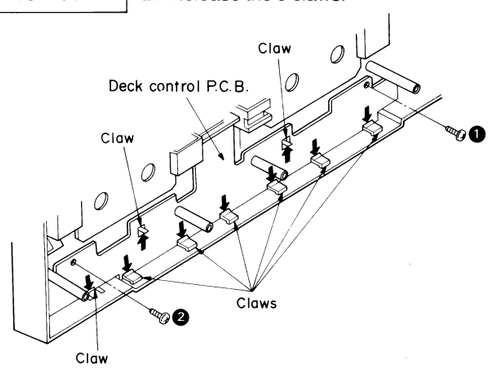




Ref. No. 14 — How to remove the deck control P.C.B.

Procedure 13→14

1. Remove the 2 screws (❶, ❷).
2. Release the 9 claws.



■ SCHEMATIC DIAGRAM

(This schematic diagram may be modified at any time with the development of new technology.)

Notes:

- **•S401** : Beat-prevention switch in **"A"** position.
- **•S501** : Super bass switch in **"off"** position.
- **•S701** : Power switch in **"on"** position.
- **•S801~S805** : Input selector switches.
  〔**S801: AUX, S802: TAPE, S803: TUNER, S804: CD, S805: PHONO**〕
- **•S806, S807** : Balance control switches.
  〔**S806: LEFT, S807: RIGHT**〕
- **•S808** : Muting switch.
- **•S809~S813** : DECK B control switches.
  〔**S809: FF (▶▶), S810: F•PLAY (▶), S811: STOP (■), S812: R•PLAY (◀), S813: REW (◀◀)**〕
- **•S814~S820** : DECK A control switches.
  〔**S814: REC MUTE (O), S815: FF (▶▶), S816: F•PLAY (▶), S817: STOP (■), S818: R•PLAY (◀), S819: REW (◀◀), S820: REC PAUSE (●)**〕
- **•S821** : Edit-recording switch.
- **•S822** : Automatic rewind/edit-recording switch.
- **•S823** : Timer stand-by switch in **"OFF"** position.
- **•S824** : Reverse mode selector switch in "↻" position.
- **•S825** : Editing tape-speed selector switch in **"Normal"** Position.
- **•S901** : Dolby noise-reduction switch in **"OFF"** position.
- **•S951** : DECK B/Mode detect switch.
- **•S952** : DECK B/Half detect switch.
- **•S953** : DECK B/CrO_2 tape detect switch.
- **•S971** : DECK A/Mode detect switch.
- **•S972** : DECK A/Half detect switch.
- **•S973** : DECK A/CrO_2 tape detect switch.
- **•S974** : DECK A/Record prevention switch (REV).
- **•S975** : DECK A/Record prevention switch (FWD).
- **•S976** : DECK A/Metal tape detect switch.
- : Tape Deck A•B playback signal.
- : Recording signal.
- : Phono signal (Lch).
- : Positive voltage lines.
- : Negative voltage Lines.

• Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high- impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.

Important safety notice:

Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

***Caution!**

IC and LSI are sensitive to static electricity.

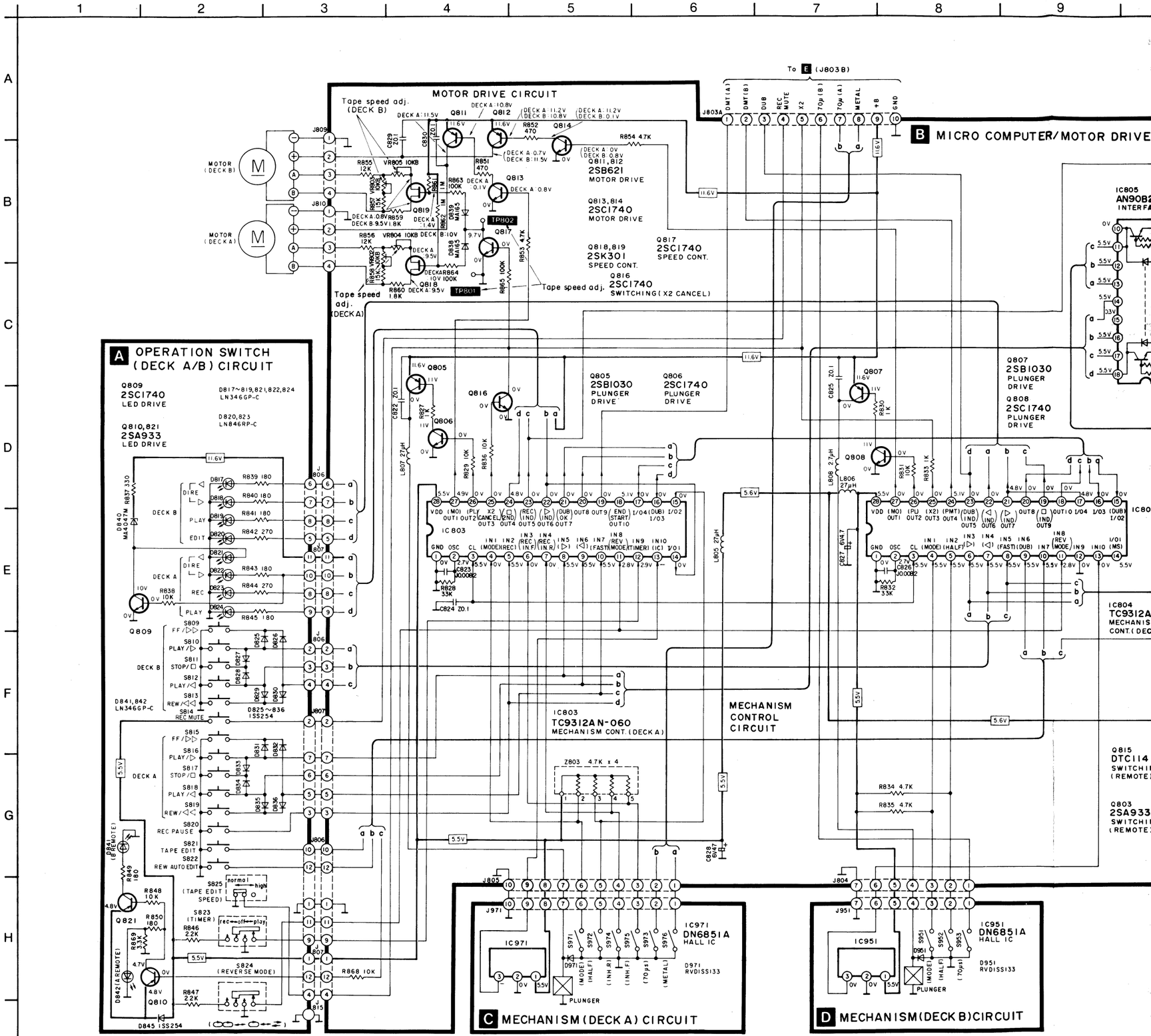
Secondary trouble can be prevented by taking care furing repair.

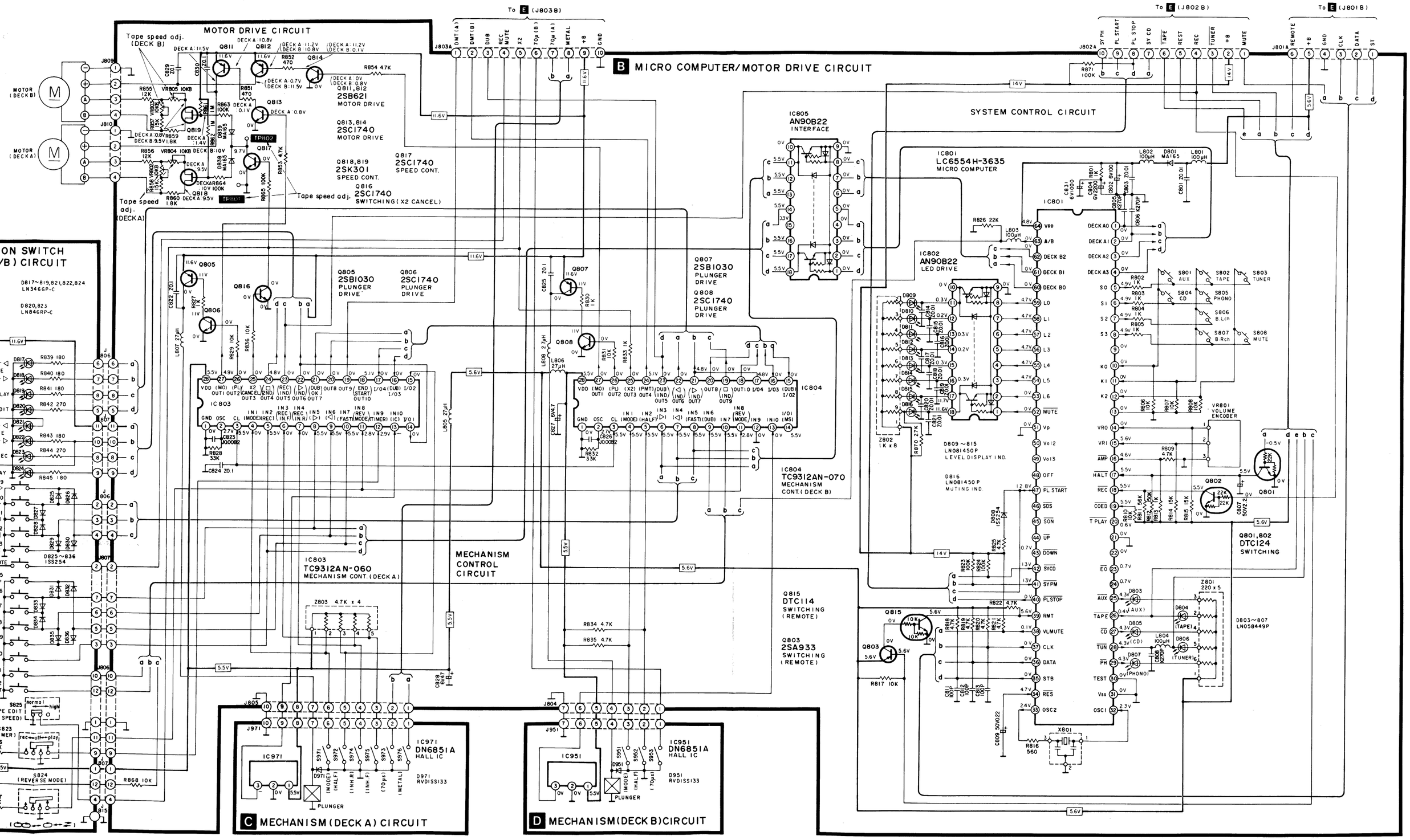
*Cover the parts boxes made of plastics with aluminum foil.

*Ground the soldering iron.

*Put a conductive mat on the work table.

*Do not touch the legs of IC or LSI with the fingers directly.




B MICRO COMPUTER/MOTOR DRIVE CIRCUIT
MOTOR DRIVE CIRCUIT
SYSTEM CONTROL CIRCUIT
MECHANISM CONTROL CIRCUIT
C MECHANISM (DECK A) CIRCUIT
D MECHANISM (DECK B) CIRCUIT
IC801 LC6554H-3635 MICRO COMPUTER
IC802 AN90B22 LED DRIVE
IC803 TC9312AN-060 MECHANISM CONT. (DECK A)
IC804 TC9312AN-070 MECHANISM CONT. (DECK B)
IC805 AN90B22 INTERFACE
IC971 DN6851A HALL IC
IC951 DN6851A HALL IC
Q807 2SB1030 PLUNGER DRIVE
Q808 2SC1740 PLUNGER DRIVE
Q805 2SB1030 PLUNGER DRIVE
Q806 2SC1740 PLUNGER DRIVE
Q811,812 2SB621 MOTOR DRIVE
Q813,814 2SC1740 MOTOR DRIVE
Q818,819 2SK301 SPEED CONT.
Q817 2SC1740 SPEED CONT.
Q816 2SC1740 SWITCHING (X2 CANCEL)
Q815 DTC114 SWITCHING (REMOTE)
Q803 2SA933 SWITCHING (REMOTE)
Q801,802 DTC124 SWITCHING
D809~815 LN0814S0P LEVEL DISPLAY IND.
D816 LN0814S0P MUTING IND.
D803~807 LN058449P
Tape speed adj. (DECK B)
Tape speed adj. (DECK A)
MOTOR (DECK B)
MOTOR (DECK A)
To E (J803B)
To E (J802B)
To E (J801B)
J803A
J802A
J801A
J809
J810
J806
J807
J805
J804
J971
J951
S801 AUX
S802 TAPE
S803 TUNER
S804 CD
S805 PHONO
S806 B.Lch
S807 B.Rch
S808 MUTE
VR801 VOLUME ENCODER
X801
TP801
TP802

E MAIN (PHONO EQ/INPU
REC AMP/BIAS OSC/DC

DECK B
L ch
PLAYBACK HEAD
R ch
J301
Playback signal (DECK B)
Q301, 302
2SC1740
X2 DRIVE
IC301
AN6558F
PLAYBACK AMP
P.B. gain (L ch) adj. (DECK B)
Q303~306
2SC1740
SWITCHING (TAPE SELECT)
P.B. gain (Rch) adj. (DECK B)
IC303
AN6552F
PRE AMP (DECK A/B)
Playback signal (DECK A·B)
DOLBY NR CIRCUIT
IC901
CXA1101P
DOLBY NR
Q901
2SC1740
SWITCHING
Playback gain
TP902
TP903
TP901
Q903, 904
2SD1450
MUTING
Recording Signal
IC305
AN6552F
BUFFER AMP
IC503
AN6558F
BUFFER AMP
CASSETTE DECK CIRCUIT
Playback signal (DECK A)
Q309, 310
2SC1740
PLAYBACK: OFF
Q311~313
2SC2784
HEAD SELECT
Q307, 308
2SD1450
MUTING
DECK A
L ch
R/P HEAD
R ch
J302
Bias current (L ch)
Bias current (R ch)
TP301
TP302
TP304
TP303
IC302
AN6558F
PLAYBACK AMP
P.B. gain (L ch) adj. (DECK A)
P.B. gain (Rch) adj. (DECK A)
Q315, 316
2SC1740
SWITCHING (TAPE SELECT)
Q317, 318
2SD1450
MUTING
Q401
2SA933
HEAD SELECT
Recording signal
Q402
2SC1740
SWITCHING CONT.
Q403
2SC1740
SWITCHING CONT.
Q329, 330
2SD1450
ALC CONTROL
Q416
2SA933
ALC CONTROL
Q404, 405
2SC1740
ALC CONTROL
Q412
2SC1740
MUTING CONT.
Q411
DTA114
MUTING CONT.
Q413
2SB621
SWITCHING
Q414
2SD1450
SWITCHING (REC·ON)
Overall gain adj. (L ch)
Overall gain adj. (R ch)
IC304
AN6552F
REC AMP
Q507~509
2SC1740
SWITCHING
Q510
2SC1740
SWITCHING CONTROL
IC501
AN6558F
PHONO EQ
PHONO AMP
DECK A
ERASE HEAD
J303
TP401
Erase current
Erase current adj.
Bias current adj. (R ch)
Bias current adj. (L ch)
S401
(BEAT PREVENTION)
Q406, 407
2SC2784
WDS SELECT
Q408, 409
2SD592
BIAS OSC
Q415
2SC1384
REC DET.
Q319, 320
2SD1450
MUTING
Q321~328
2SC1740
TAPE SELECT (CrO2/METAL)
Q417
2SC1740
SWITCHING (REMOTE)
Q410
2SC1740
SWITCHING
TUNER CONTROL
CD SYNCHRO REC
REMOTE CONTROL OUT
TURNTABLE CONTROL
J803 B
J802 B
J801B
To B (J803A)
To B (J802A)
To B (J801A)
GND
Lch
PHO

29 30 31 32 33 34 35 36 37 38 39 40 41 42

IN (PHONO EQ/INPUT SELECTOR/ATTENUATOR/DECK A,B PLAYBACK AMP/
C AMP/BIAS OSC/DOLBY NR AMP/POWER AMP/POWER SUPPLY) CIRCUIT

VOLUME CONTROL CIRCUIT

IC504
TC9212P
ATTENUATOR
(VOLUME)

IC503
AN6558F
BUFFER AMP

IC506
AN6558F
BUFFER AMP

Recording signal

POWER AMP CIRCUIT

IC601
SVI3102B
POWER AMP

SPEAKERS (8~16Ω)
Lch
Rch

G DOLBY NR SWITCH/
HEADPHONES JACK CIRCUIT

HEADPHONES

Q502 Q501
Q503
Q501,502
2SD1450
MUTING
Q503
2SA933
MUTING
CONTROL

Playback signal (DECK A·B)

INPUT SELECTOR CIRCUIT

IC502
TC9164N
INPUT SELECTOR

IC505
AN6558F
TONE AMP

Q505,506
2SC1740
SUPER BASS AMP

F TONE AMP
CIRCUIT

POWER SOURCE CIRCUIT

IC701
AN7812
REGULATOR

IC702
AN78M05
REGULATOR

IC703
AN7815
REGULATOR

Q701
2SB941
REGULATOR
Q702
2SA933
REGULATOR

H POWER SWITCH/
POWER SOURCE CIRCUIT

AC 240V---(EK)
AC 220V---(E,EB,EF,EH)
(50/60Hz)

AC OUTLET
(UNSWITCHED)

Except (EK) area.

AC OUTLET
(UNSWITCHED)

For (EK) area.

IC501
AN6558F
PHONO EQ

PHONO EQUALIZER
AMP CIRCUIT

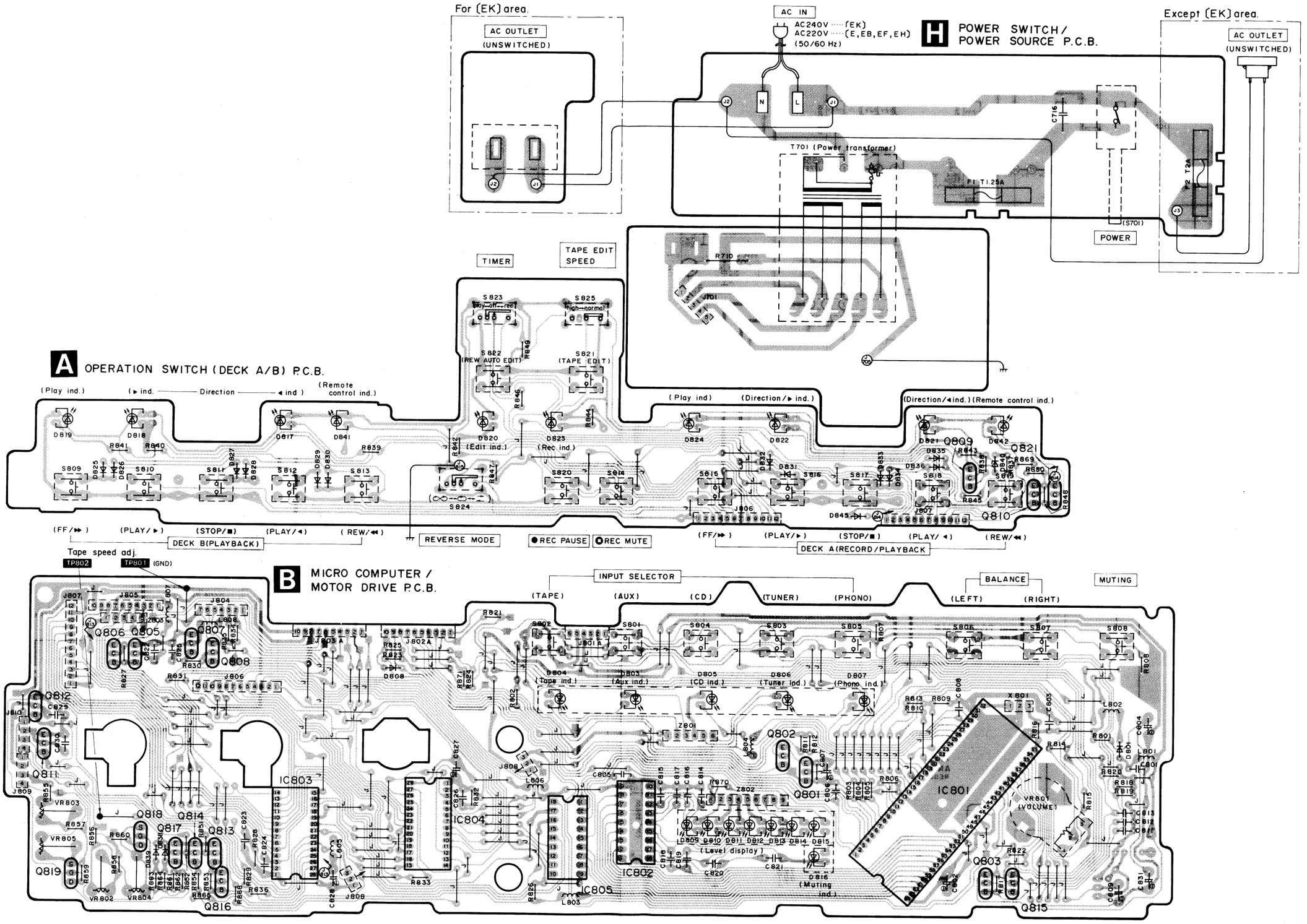
Phono signal

Playback signal
(DECK A·B)

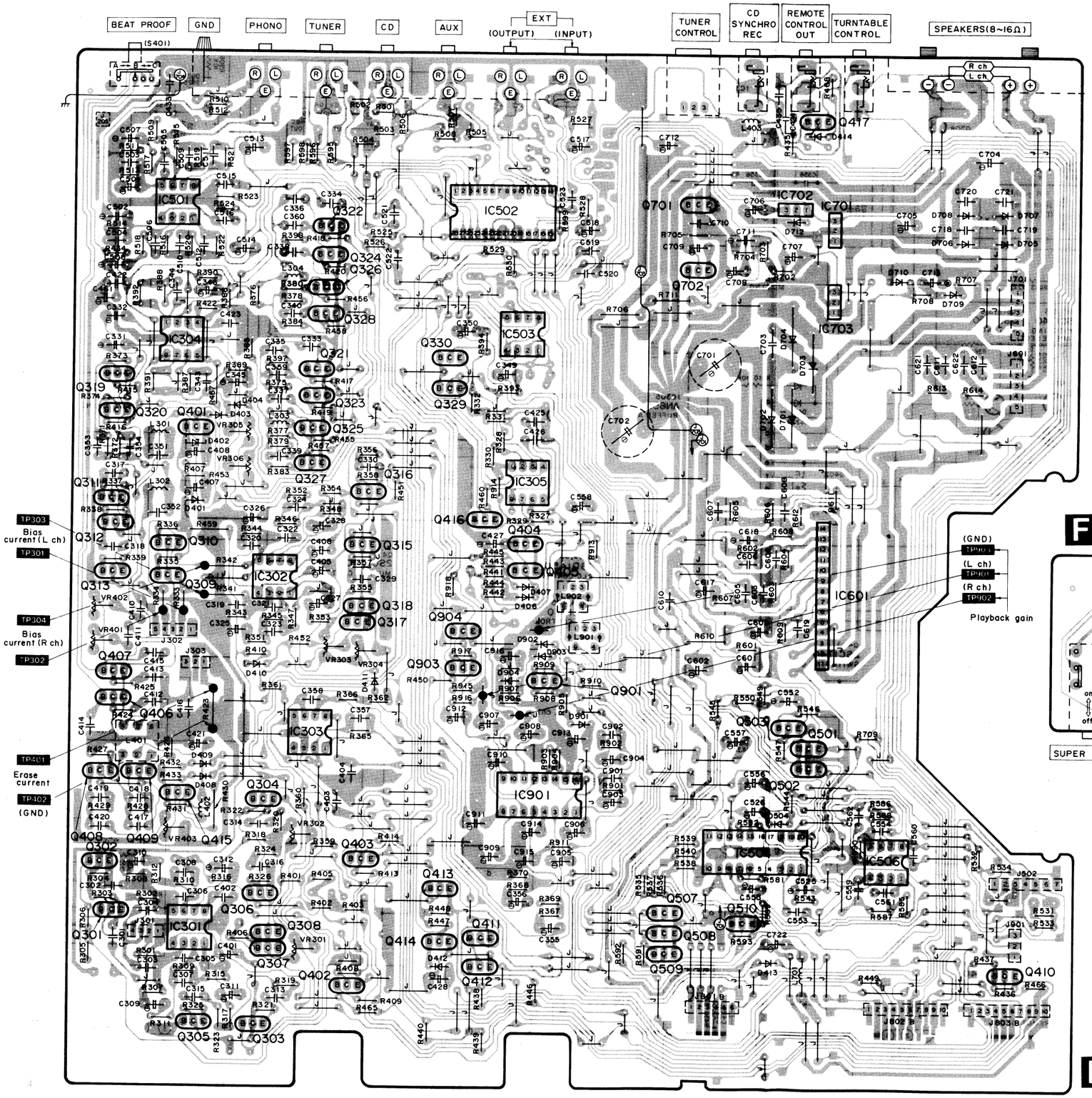
GND Lch Rch PHONO
Lch Rch CD
Lch Rch AUX
Lch Rch TUNER
Lch Rch OUTPUT Lch Rch INPUT EXT.

B (J801A)

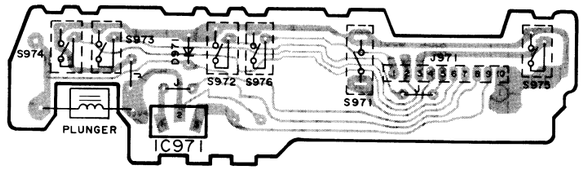
■ PRINTED CIRCUIT BOARDS



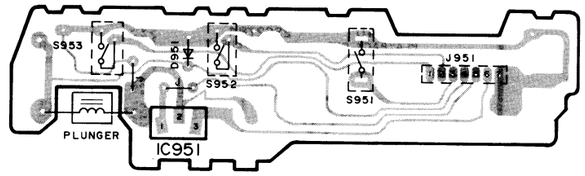
13 14 15 16 17 18 19 20 21 22 23 24 25 26



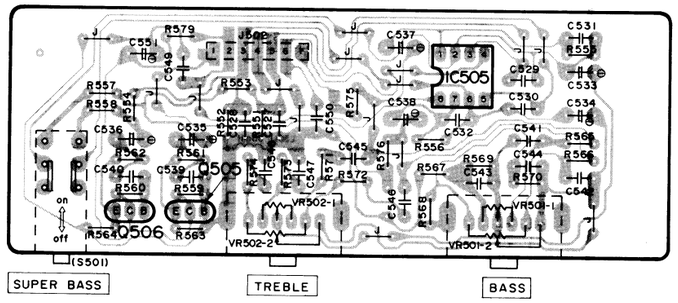
C MECHANISM (DECK A) P.C.B.



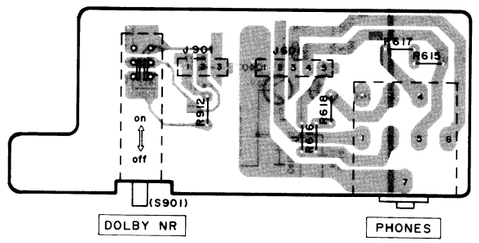
D MECHANISM (DECK B) P.C.B.



F TONE AMP P.C.B.



G DOLBY NR SWITCH / HEADPHONES JACK P.C.B.



E MAIN (PHONO EQ / INPUT SELECTOR / ATTENUATOR / DECK A,B PLAYBACK AMP / REC AMP / BIAS OSC / DOLBY NR AMP / POWER AMP / POWER SUPPLY) P.C.B

■ TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODES

AN6558F	8 pin	TC9164N	28 pin	
AN6552F		TC9312AN		
CXA1101P	16 pin	LC6554H-3635	64 pin	
AN90B22	18 pin			
TC9212P	20 pin			

SV13102B

AN7812
AN78M05
AN7815

1. Vin
2. GND
3. Vout

DN6851A

1. Vin
2. GND
3. Vout

2SC1740, 2SA933,
2SD592AN, 2SB621A,
2SC1384A, 2SK301

2SD1330R, 2SC2784,
2SB1030Q, 2SC3311A

DTC124ES
DTC114YSTP

DAT114ESTP

2SB941-P

MA165, MA29WA,
1SS133

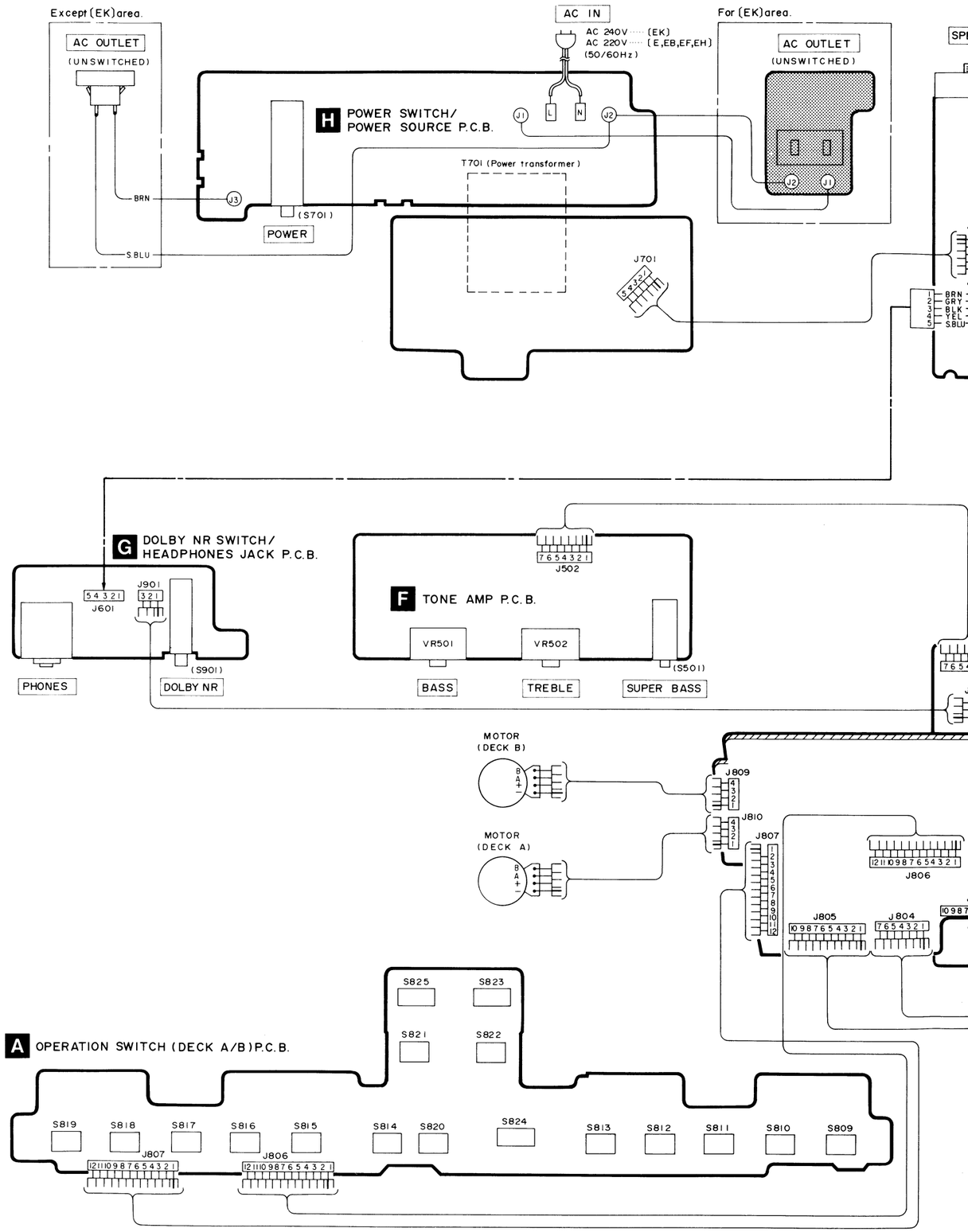
SVDS2V20
SVD1SR35200A

LN058449P
LN346GP-C
LN846RP-C

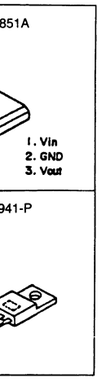
LN081450P

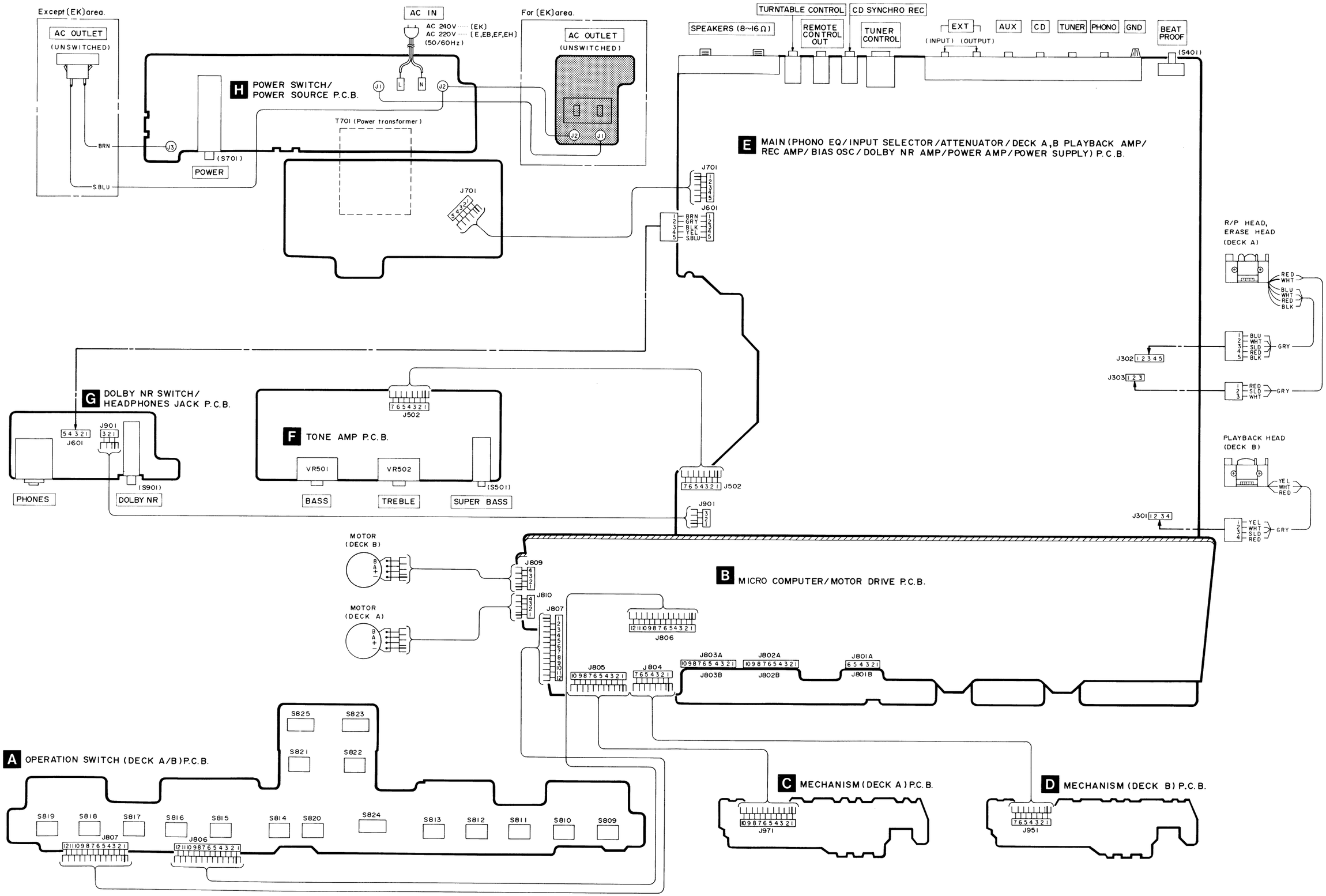
MA4082M
MA4047M

■ WIRING CONNECTION DIAGRAM

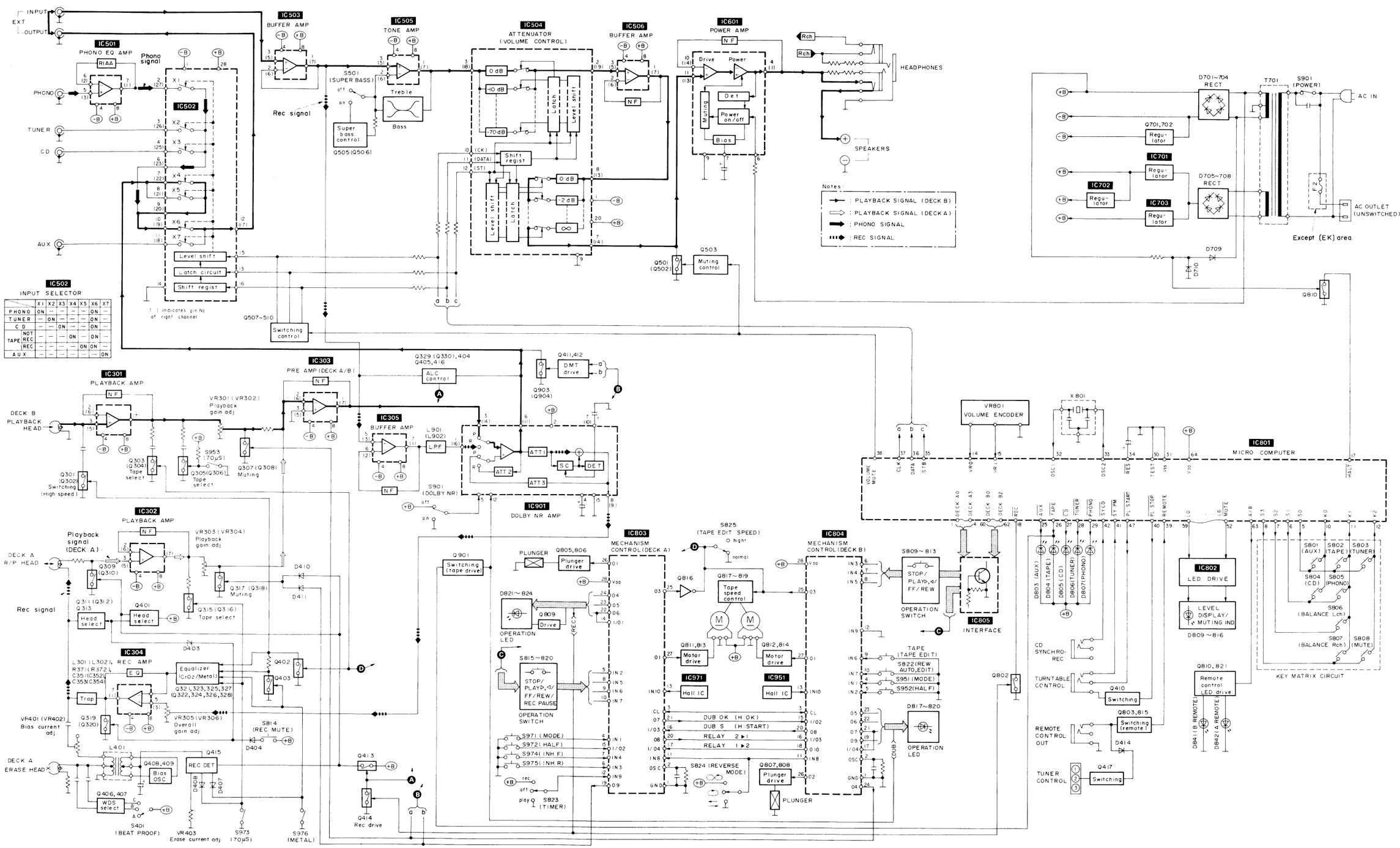


■ WIRING CONNECTION DIAGRAM





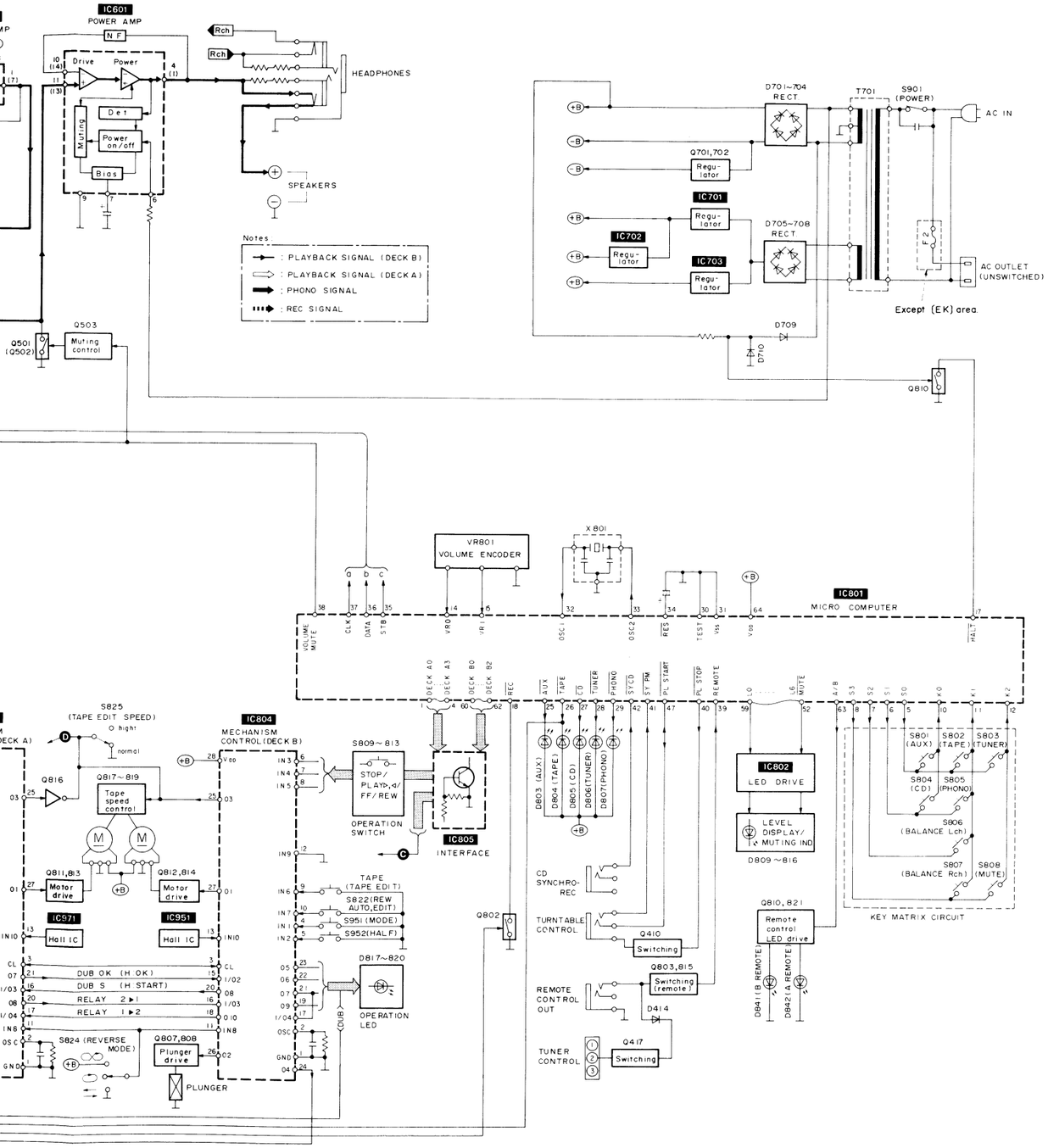
■ BLOCK DIAGRAM



IC502 INPUT SELECTOR

	X1	X2	X3	X4	X5	X6	X7
PHONO	ON	–	–	–	–	ON	–
TUNER	–	ON	–	–	–	ON	–
CD	–	–	ON	–	–	ON	–
TAPE NOT REC	–	–	–	ON	–	ON	–
TAPE REC	–	–	–	–	ON	ON	–
AUX	–	–	–	–	–	–	ON

[ ] indicates pin No. of right channel



■ MEASUREMENTS AND ADJUSTMENTS

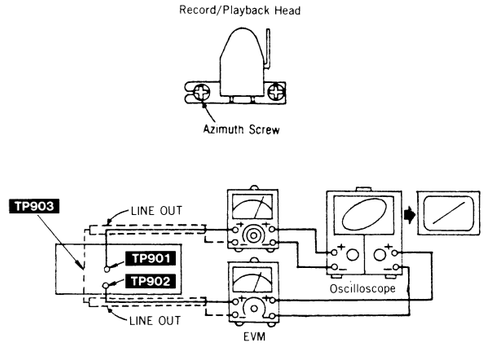
Measurement Condition
- Input selector; TAPE
- Noise reduction select switch:Off
- Make sure heads are clean.
- Make sure capstan and pressure roller are clean.
- Judgeable room temperature 20±5°C(68±9°F)

Measuring instruments
- EVM(electronic voltmeter)
- Oscilloscope
- Digital frequency counter
- AF oscillator
- DC voltmeter

Test tape
- Head azimuth adjustment (8kHz, -20dB); QZZCFM
- Tape speed adjustment (3kHz, -10dB); QZZCWAT
- Playback frequency response (315Hz, 12.5kHz, 10kHz, 8kHz, 4kHz, 1kHz, 250kHz, 125kHz, 63kHz, -20dB) QZZCFM
- Playback gain adjustment (315Hz, 0dB); QZZCFM
- Overall frequency response, Overall gain adjustment
  Normal reference blank tape; QZZCRA
  CrO_2 reference blank tape; QZZCRX
  Metal reference blank tape; QZZCRZ

HEAD AZIMUTH ADJUSTMENT

1.Test equipment connection is shown in figure.
2.Play back the azimuth adjusted part (8kHz,-20dB) of the test tape (QZZCFM) and regulate the angle adjusting screw so that the outputs of L-CH and R-CH are maximized.
(When the adjusting positions are different for L-CH and R-CH, find a position where the outputs of L-CH and R-CH are balanced, and then make the adjustment.)
3.At the same time, obtain a lissajous waveform and eliminate phase deflection.
4.After adjustment, lock the tape guide height and angle adjustment screws.



TAPE SPEED ADJUSTMENT (DECK A,B)

High speed (DECK A)
1.Test equipment connection is shown in figure.
2.Set the input selector to **"Tape"** position.
3.Connect **TP802**and **EARTH (VR501 angle)** with a lead wire.
4.Set the editing mode selector to **"High"**position.
5.Play back the middle part of the test tape (QZZCWAT).
6.Adjust **VR802** so that the output is within the standard.

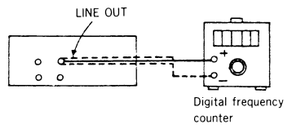
Normal speed
7.Disconnect the lead wire between **TP802** and **EARTH (VR501 angle).**
8.Set the editing mode selector to **"Normal"** position.
9.Adjust **VR804** so that the output is within the standard.

Standard value: 3000±20Hz(Normal), 6000±40Hz(High)

High speed (DECK B)
1.Connect **TP802** and **EARTH (VR501 angle)** with a lead wire.
2.Set the editing mode selector to **"High"** posetion.
3.Play back the middle part of the test tape (QZZCWAT).
4.Adjust **VR803** so that the output is within the standard.

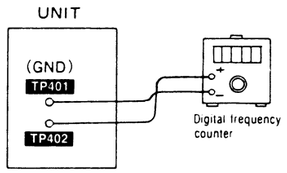
Normal speed
5.Disconnect the lead wire between **TP802** and **EARTH (VR501 angle).**
6.Set the editing mode selector to **"Normal"**position.
7.Adjust **VR805** so that the output is within the standard.

Standard value: 3000±20Hz(Normal), 6000±40Hz(High)



BIAS OSCILLATION ADJUSTMENT (DECK A)

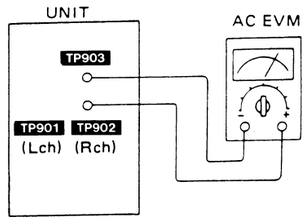
1.Test equipment connection is shown in figure.
2.Set the beat proof switch to "**A**"position.
3.Insert a metal tape and set the cassette deck to **REC** mode.
4.Adjust **L401** for **90~100kHz** on frequency counter reading



PLAYBACK GAIN ADJUSTMENT (DECK A,B)

1.Test equipment connection is shown in figure.
2.Play back the playback gain adjusted part (315Hz,0dB) of the test tape (QZZACFM).
3.Adjust Deck B = VR301(L-CH)•VR302(R-CH) and Deck A = VR303(L-CH)•VR304(R-CH) so that the output is within the standard.

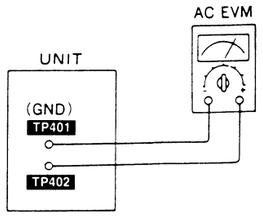
Standard value:	390±10mV



ERASE CURRENT ADJUSTMENT (DECK A)

1.Test equipment connection is shown in figure.
2.Insert a metal tape.
3.Press the record and pause buttons.
4.Adjust **VR403** so that the output between **TP402** and **TP401** is within the standard.

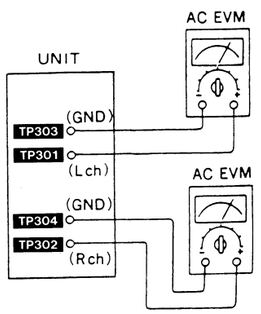
Standard value:	Metal tape	180±5mV
	Normal tape	More than 75mV
	CrO_2tape	More than 100mV



RECORDING BIAS ADJUSTMENT (DECK A)

1.Test equipment connection shown in figure.
2.Set the beat proof switch to "**A**"position
3.Insert the normal tape.
4.Press the record and pause buttons.
Minimize the input level control and adjust **VR401, VR402** so that the output between **TP303** (L-CH) • **TP302** (R-CH) and **TP301** (L-CH) • **TP304** (R-CH) is within the standard.

Standard value:	Normal tape	4.3±0.1mV
	CrO_2tape	5.2~7.2mV
	Metal tape	7.8~12.0mV

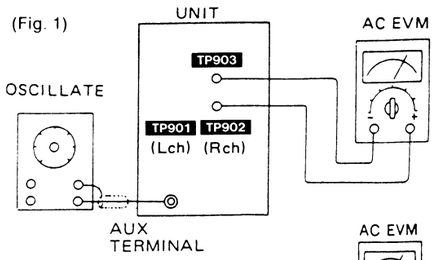


RECORDING CURRENT ADJUSTMENT (DECK A)

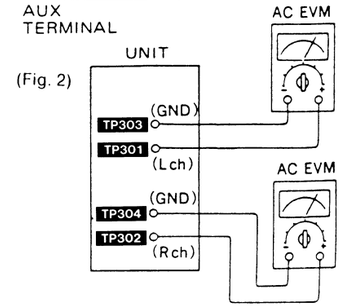
1.Test equipment connection is shown in figure.(Fig.1)
2.Set the unit to **TAPE** position and the cassette deck into **STOP** mode.
3.Short circuit **C416** at each end.
4.Set the cassette deck to **REC** mode.
5.Supply AF oscillator signal (1kHz) into **AUX** terminal and adjust the input level to get **390 ± 10mV** on AC electronic voltmter (AC EVM).
6.Test equipment connection is shown in figure.(Fig.2)
7.Set the cassette deck to **REC** mode.(QZZCRA)
8.Adjust **VR305** (L-CH) and **VR306** (R-CH) so that the output is within the standard.

Standard value:	Normal tape	0.46±0.01mV
	CrO_2tape	0.48~0.71mV
	Metal tape	0.60~0.83mV

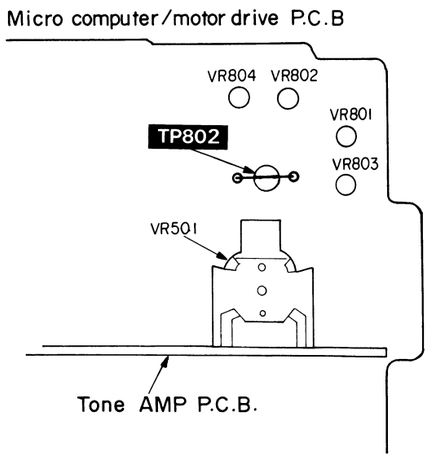
(Fig. 1)

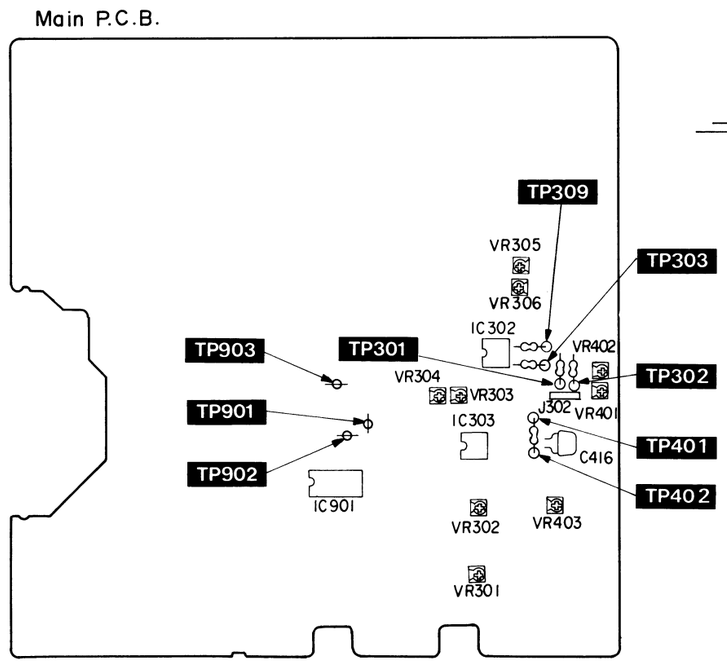


(Fig. 2)



•Adjustment Points





■ FUNCTIONS OF IC TERMINALS

•IC801 (IC6564H-3635): MICROCOMPUTER (AMP/TAPE DECK)

Pin No.	Symbol	I/O	Function
1 ~ 4	Deck A0 ~ Deck A3	O	Signals for the control of the deck A.
5 ~ 8	S0 ~ S3	O	Key matrix output signals.
10 ~ 13	K0 ~ K3	I	Key matrix input signals.
9	CDP	O	Signal for the control of the CD player.
14	VRØ	I	Signals for the rotary encoder of the volume (VR931).
15	VR1		
16	$\overline{AMP}$	I	This signal is used for power supply detection. At a "H" level ..... Power is ON At a "L" level..... Power is OFF
17	$\overline{HLT}$	I	The "HLT" signal is used to detect the HALT mode. At a "H" level ..... Power is ON At a "L" level..... Halt Mode
18	$\overline{REC}$	I	The "REC" signal is used for the control of recording on the decks. At a "L" level..... Recording
19	$\overline{CDE}$	I	Input signal for the control of editing on the CD player.
20	$\overline{TPLY}$	O	This signal is used to control the Present Play indicator.
21	$\overline{CD\ PWR}$	O	This signal controls the relay drive of power supply on the CD player.
22	$\overline{ED\ OK}$	O	Output signal for the control of editing on the CD player. At a "H" level ..... Editing on the CD player.
23	$\overline{LCDE}$	O	Output signal for the control of LED. At a "L" level..... It lights up.
24	$\overline{CD\ REM}$	O	The "CD REM" signal is used for the remote control of the CD player. If the CD player is activated by remote control when power is OFF and the TUNER ON, the CD signal will be hold for four seconds.
25	$\overline{DAT}$	O	This signal is used for the control of the DAT LED. At a "L" level..... It lights up.
26	$\overline{TA}$	O	This signal is used for the control of the TAPE LED. At a "L" level..... It lights up.
27	$\overline{CD}$	O	This signal is used for the control of the CD LED. At a "L" level..... It lights up.
28	$\overline{TU}$	O	This signal is used for the control of the TUNER LED. At a "L" Level ..... It lights up.
29	$\overline{PH}$	O	This signal is used for the control of the PHONE LED. At a "L" level..... It lights up.
30	TEST	—	Unused in this unit. For ground connection.
31	Vss	I	For ground connection.

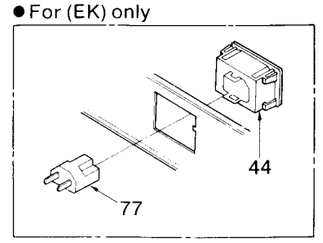
Key matrix output signals:

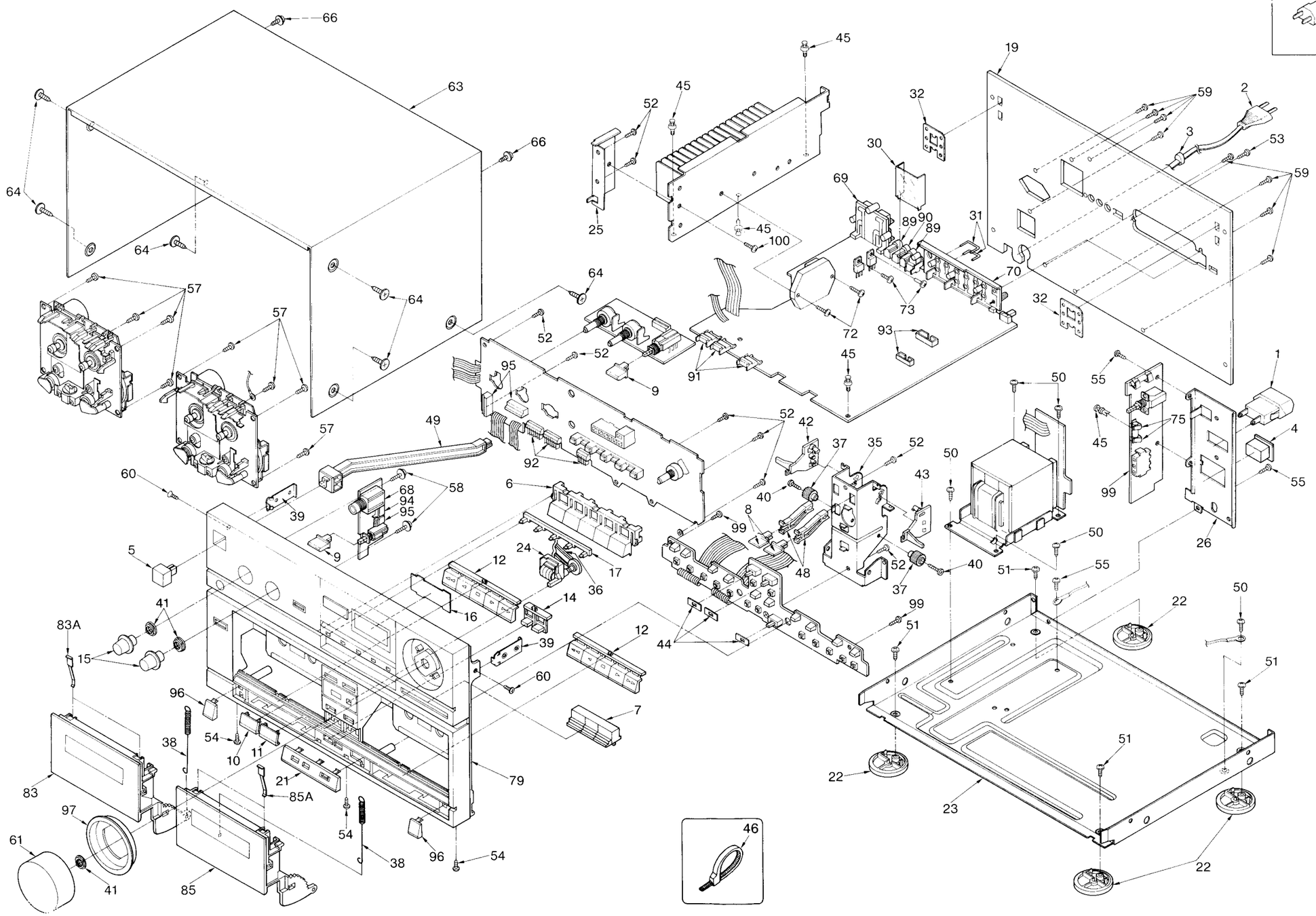
OUT \ IN	10	11	12	13
5	DAT	TAPE	TUNER	———
6	CD	PHONO	SURROUND	M. PLAY
7	———	BALANCE LEFT	S.D. SOUND	RECALL
8	———	BALANCE RIGHT	MUTE	———

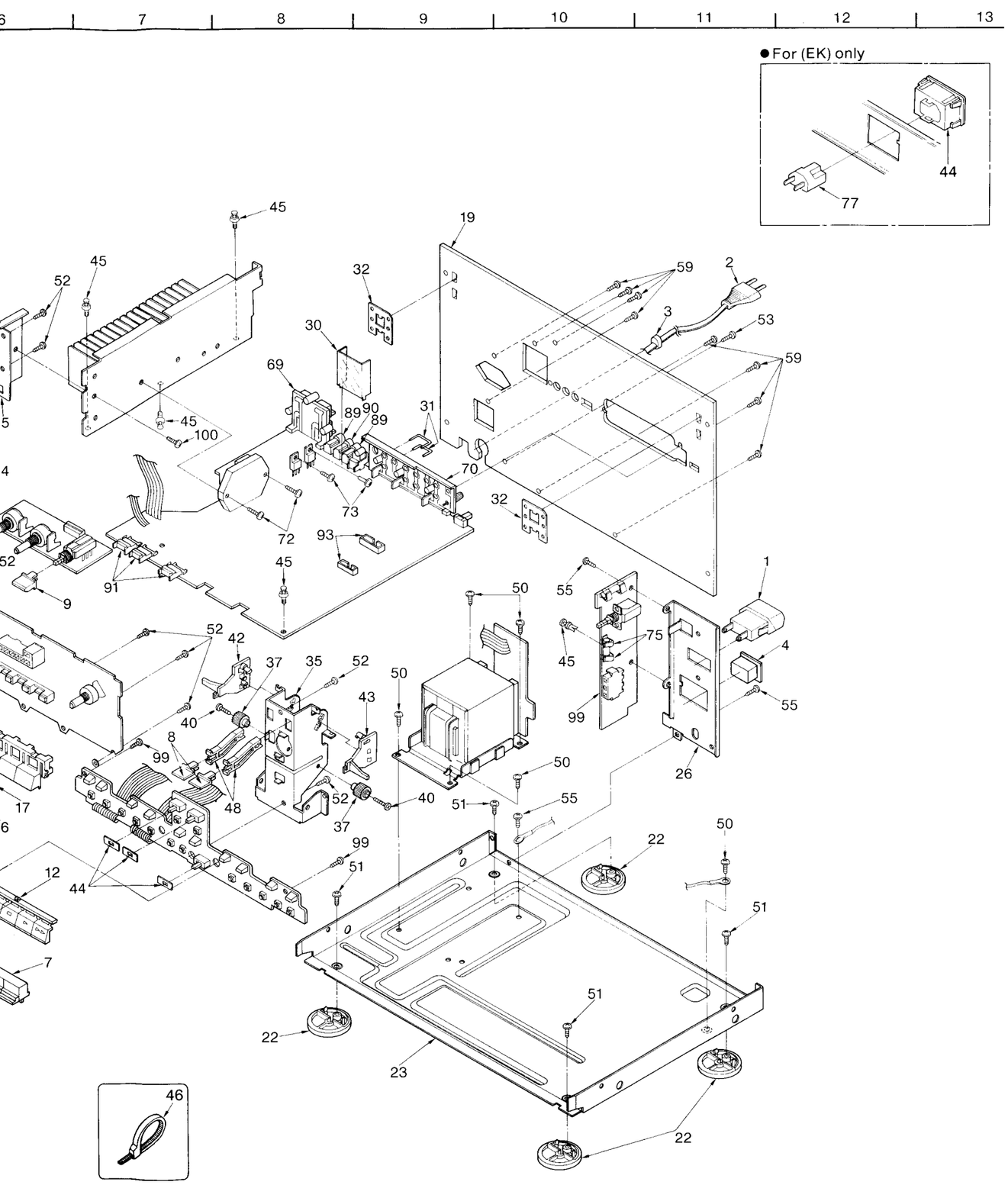
Pin No.	Symbol	I/O	Function	
32	OSC1	I	The "OSC" signals 1 and 2 are used for the 3.0-MHz crystal oscillator.	
33	OSC2	O		
34	$\overline{RES}$	I	This signal is used to reset the microcomputer.	
35	STB	I	Input signal for serial data.	For serial transfer
36	DATA	O	Output signal for serial data.	
37	CLK	I/O	This is the clock signal for serial data.	
38	VLM	O	Output signal for muting control.	
39	RMT	I	This signal is used to input data form the remote controller.	
40	$\overline{PL\ STP}$	O	Used to stop the player by remote control. (Unused in this unit.)	
41	$\overline{SY\ PH}$	I	Used for synchro-recording.	
42	$\overline{SY\ CD}$			
43	$\overline{DOWN}$		These signals are unused in this unit. For ground connection.	
44	$\overline{UP}$	—		
45	$\overline{SON}$	O	Output control signal for turning AV Surround ON and OFF and the LED display. At a "L" level..... AV Surround is ON.	
46	$\overline{SDS}$	O	Output control signal for SUPER DYNAMIC SOUND LED.	
47	$\overline{PLSTRT}$	—	Unused in this unit. For ground connection.	
48	OFF		Output control signals of loudness filter for super dynamic sound.	
49	VOL. 3	O		
50	VOL. 2			
51	VP	—	Unused in this unit. For ground connection.	
52	$\overline{MUTE}$	O	Output signal for muting LED.	
53	L6		Output LED control signals for volume and tone balance.	
54	L5			
55	L4			
56	L3	O		
57	L2			
58	L1			
59	L0			
60	DEK B0 ~ DECK B2	O	Signals for the control of the deck B.	
61				
62				
63	A/B	O	This signal is used to control the LEDs on decks A and B. At "H" level ..... LED lights up on deck B. At a "L" level..... LED lights up on deck A.	
64	VDD	I	To be connected to a power supply.	

■ EXPLODED VIEW ●Cabinet parts

● For (EK) only







■ REPLACEMENT PARTS LIST

Notes : * Important safety notice :
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
* Bracketed indications in Ref. No. columns specify the area. (Refer to the first page for area.)
Parts without these indications can be used for all areas.

●CABINET PARTS LIST

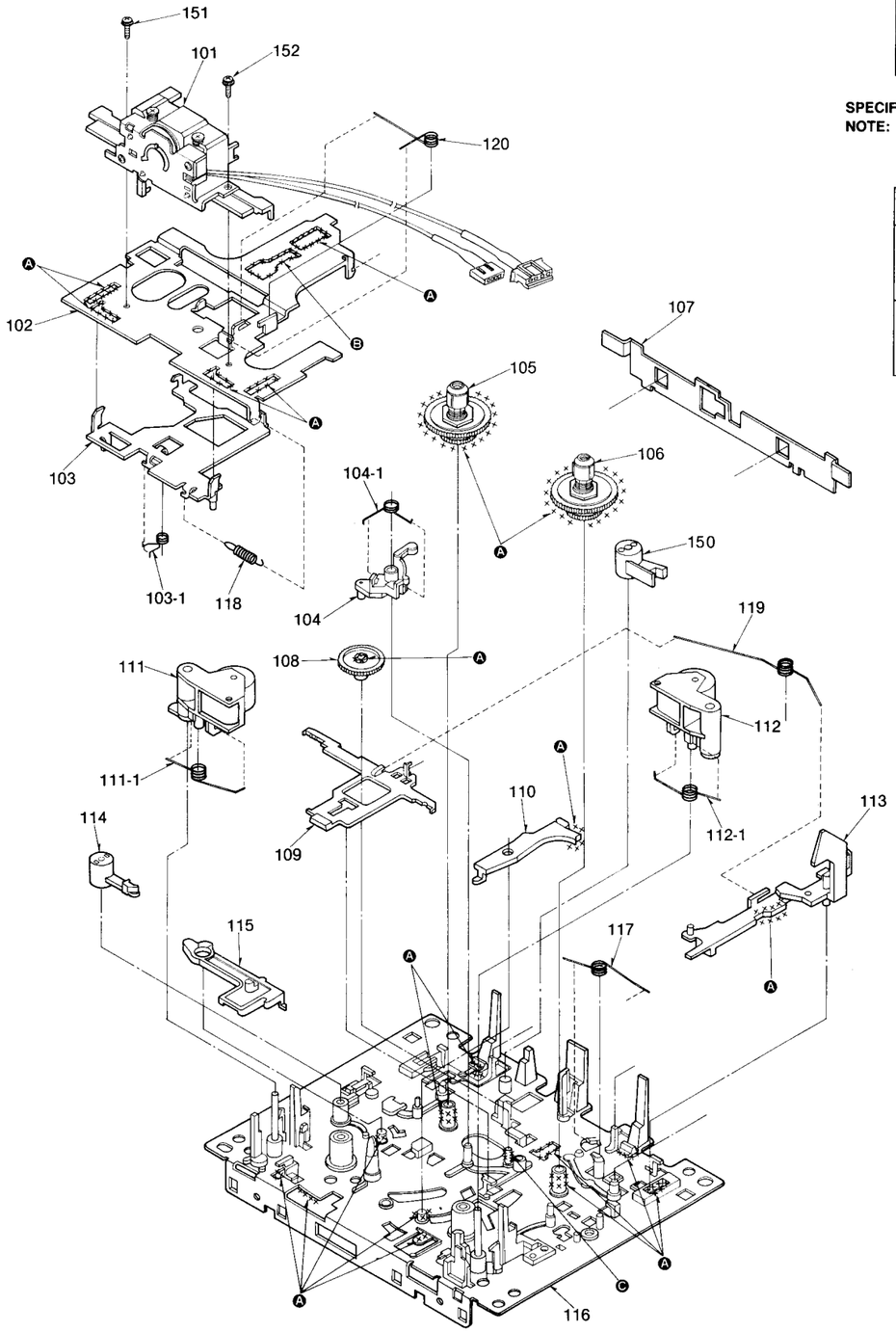
Ref. No.	Part No.	Description
CABINET AND CHASSIS		
1 ⚠ {EH, EB, EF, E}	SJS9225	AC OUTLET
2 {EH, EB, EF, E}	SJA138-3	POWER CORD
2 {EK}	SJA189	POWER CORD
3	SHR127	SPACER, POWER CORD
4	SJS9332A	AC OUTLET COVER
{EK}		
5	SBC666-1	BUTTON, POWER
6	SBC925-1C	BUTTON, SELECTOR
7	SBC926-1	BUTTON, BALANCE
8	SBC928	BUTTON, EJECT
9	SBC937	BUTTON, PUCH
10	SBC979A2	BUTTON, EDIT
11	SBC979B2	BUTTON, EDIT
12	SBCF13A	BUTTON, CASSETTE
14	SBCF14	BUTTON, REC
15	SBN1235	KNOB, TONE
16	SDUF1A	FILTER
17	SGL242	ORNAMENT
19 {E}	SGPF11-1B	PANEL
19 {EH, EB, EF}	SGPF11-1D	PANEL
19 {EK}	SGPF11B	PANEL
21	SGXF13B	ORNAMENT
22	SKL307	FOOT
23	SKU11650-1	CHASSIS
24	SJN29	TAPE COUNTER
25	SUWF21	BRACKET
26	SUWF22	BRACKET
30	SMXF18	SHIELD PLATE
31	SJP9205-2Y	SHORTING PIN
32	SUW3007-1	BRACKET
35	SMQF7	BRACKET
36	SMQ20024	COUNTER BELT
37	SMQ4096	GEAR
38	SMQ60018	SPRING
39	SNEF2	ORNAMENT SCREW
40	SNE2120	NUT
41	SNE4021	NUT
42	SHEF1	LEVER
43	SHEF2	LEVER
44	SHR5312	SHEET
45	SHR9094	LATCH
46	SHR301	CLAMPER
48	SUBF3	CONNECTION ROD
49	SUBF4	CONNECTION ROD
50	XTB3+6F	SCREW
51	XTB3+8G	SCREW
52	XTB3+10G	SCREW
53	XTB3+10GFZ	SCREW
54	XTB3+8J	SCREW
55	XTB3+10J	SCREW
56	XTB3+10JFZ	SCREW
57	XTB3+10JFR	SCREW
58	XTWS3+10Q	SCREW
59	XTW3+12TFZ	SCREW
60	XTS3+8F	SCREW
61	SBN1236	KNOB, VOLUME
63	SKCUX930-KE	CABINET ASS'Y
64	SNE2095-5	SCREW
66	XTW3+12TFZ	SCREW
68	SJJ63E	JACK
69	SJF5404	TERMINAL PLATE
70	SJF3062-3N	TERMINAL BOARD
72	XTB3+16J	SCREW
73	XTB3+10J	SCREW
75 ⚠	SJT388	FUSE HOLDER
77 ⚠ {EK}	SJS9332B	AC OUTLET
79	SGYUX930-KE	FRONT PANEL
83	SYEF14	CASSETTE HOLDER
83A	QBP2006A	SPRING
85	SYEF15	CASSETTE HOLDER
85A	QBP2006A	SPRING
89	SJJ141	M3 JACK
90	SJJ141-1	JACK
91	SJS50680WL	CONNECTOR(6P)
91	SJS51080WL	CONNECTOR(10P)
92	SJT30647WL	CONNECTOR(6P)
92	SJT31047WL	CONNECTOR(10P)
93	SJTD313	TERMINAL(3P)
93	SJTD413	TERMINAL(4P)
93	SJTD513	TERMINAL(5P)
94	SJT3513	CONNECTOR(5P)
95	SJT30344-H	SOCKET(3P)
95	SJT30541LX-H	TERMINAL(5P)
95	SJT30740LX-V	CONNECTOR(7P)
96	SGXF11	ORNAMENT
97	SGXF12	ORNAMENT
99	SJS305-1	JACK

●PACKING PARTS LIST

Ref. No.	Part No.	Description
PACKING MATERIAL		
P1 {EK, EH, EB, E}	SPGF22	PACKING CASE
P1 {EF}	SPGF23	PACKING CASE
P1	XZB65X70C02	PROTECTION COVER
P2	SPSF14-1	PAD
P3	SPSF15-1	PAD
P4	SPSF16-1	PAD
P5	SPSF17	PAD
P6	XZB65X70C02	PROTECTION COVER
OPERATING INSTRUCTIONS		
A1 {EK}	SQFF31	INSTRUCTION BOOK
A1 {EH, EB, E}	SQFF32	INSTRUCTION BOOK
A1 {EF}	SQFF37	INSTRUCTION BOOK

■ EXPLODED VIEW ●DECK A

(Top view)



Notes:

- When changing mechanism parts, apply the specified grease to the area marked "X X" shown in the drawing. (Exploded view DECK A).

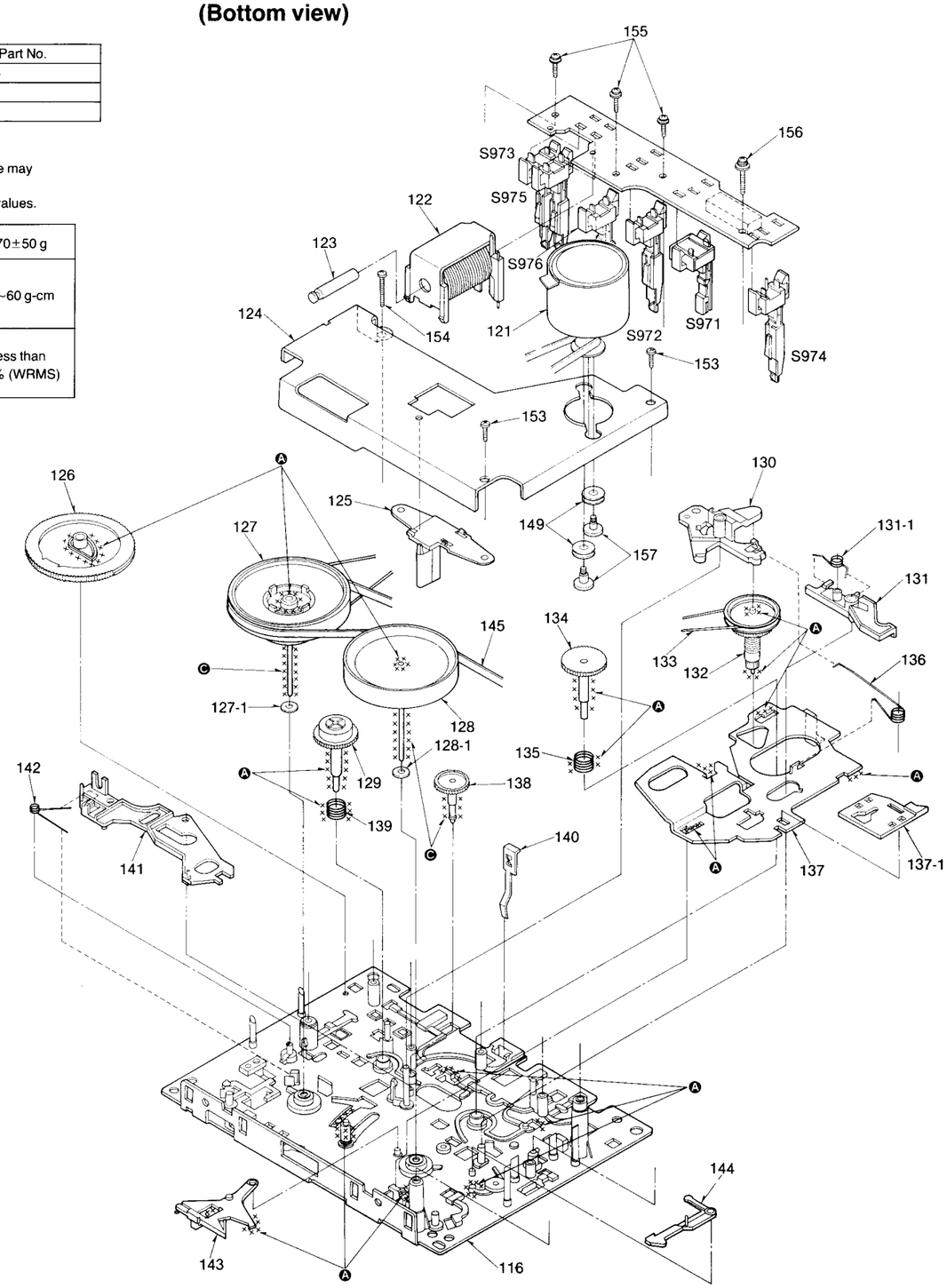
Ref. No.	Part No.
Ⓐ	RZZ0L18
Ⓑ	SZZ0L05
Ⓒ	RZZ0L02

SPECIFICATIONS

NOTE: The value indicated by the torque tape may fluctuate during torque measurement. In that case, obtain the middle of the values.

Pressure of pressure roller	270±50 g
Takeup tension *Use cassette torque Meter...QZZSRKCT	35~60 g-cm
Wow and flutter; (JIS) *Use test tape ...QZZCWAT	Less than 0.1% (WRMS)

(Bottom view)



●MECH

Ref. No
(DECK A)
CASSETTE
101
102
103
103-1
104
104-1
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106
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109
110
111
111-1
112
112-1
113
114
115
116
117
118
119
120
121
122
123
124
125
126
127
127-1
128
128-1
129
130
131
131-1
132
133
134
135
136
137
137-1
138
139
140
141
142
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145
149
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SCREWS,W
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157

echanism parts, apply the specified grease to the
shown in the drawing.
CK A).

f. No.	Part No.
Ⓐ	RZZ0L18
Ⓑ	SZZ0L05
Ⓒ	RZZ0L02

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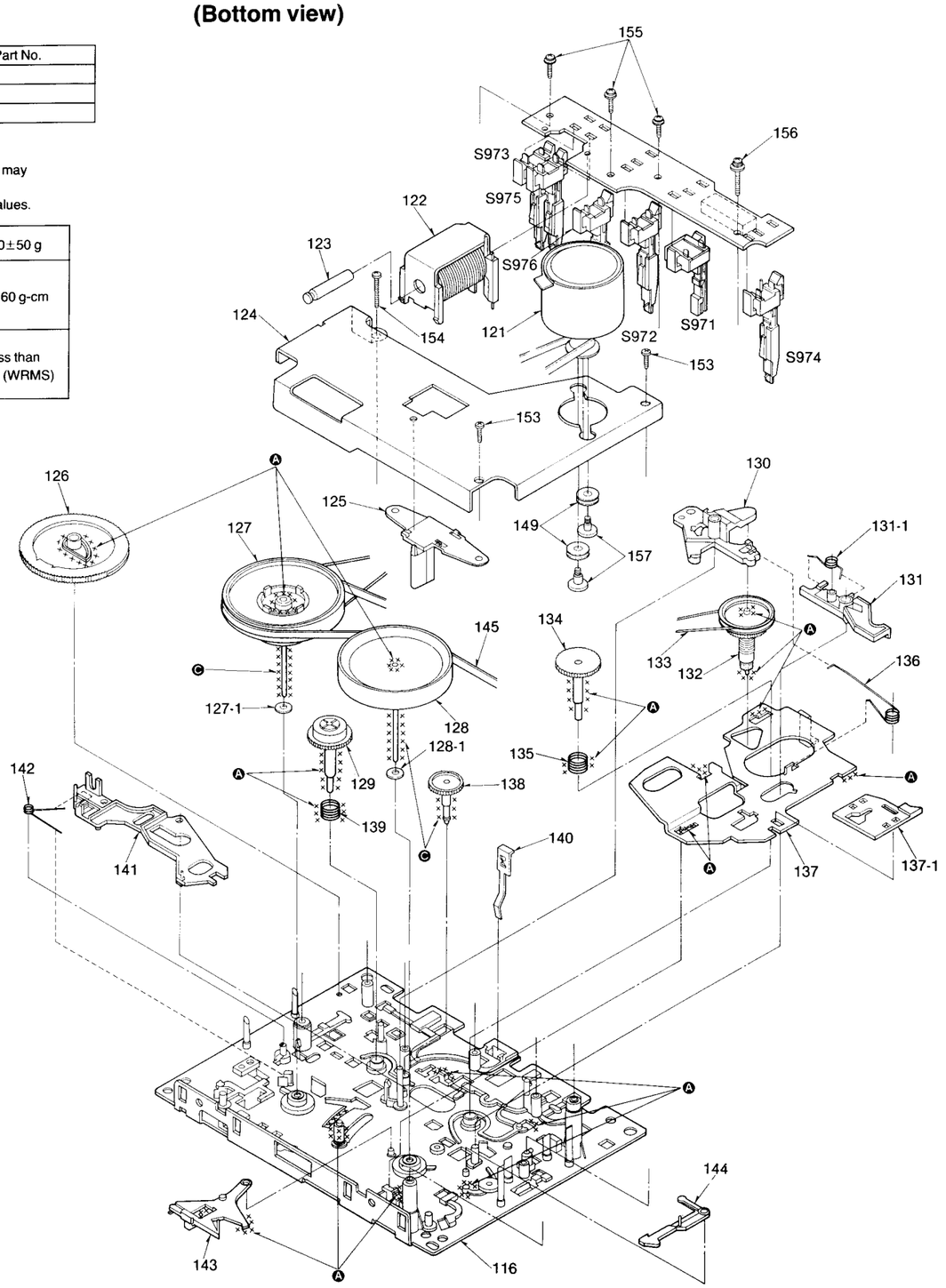
ring torque measurement.
obtain the middle of the values.

f pressure roller	270±50 g
sion tte torque ZZSRKCT	35~60 g-cm
utter; (JIS) ape ZZCWAT	Less than 0.1% (WRMS)

(Bottom view)



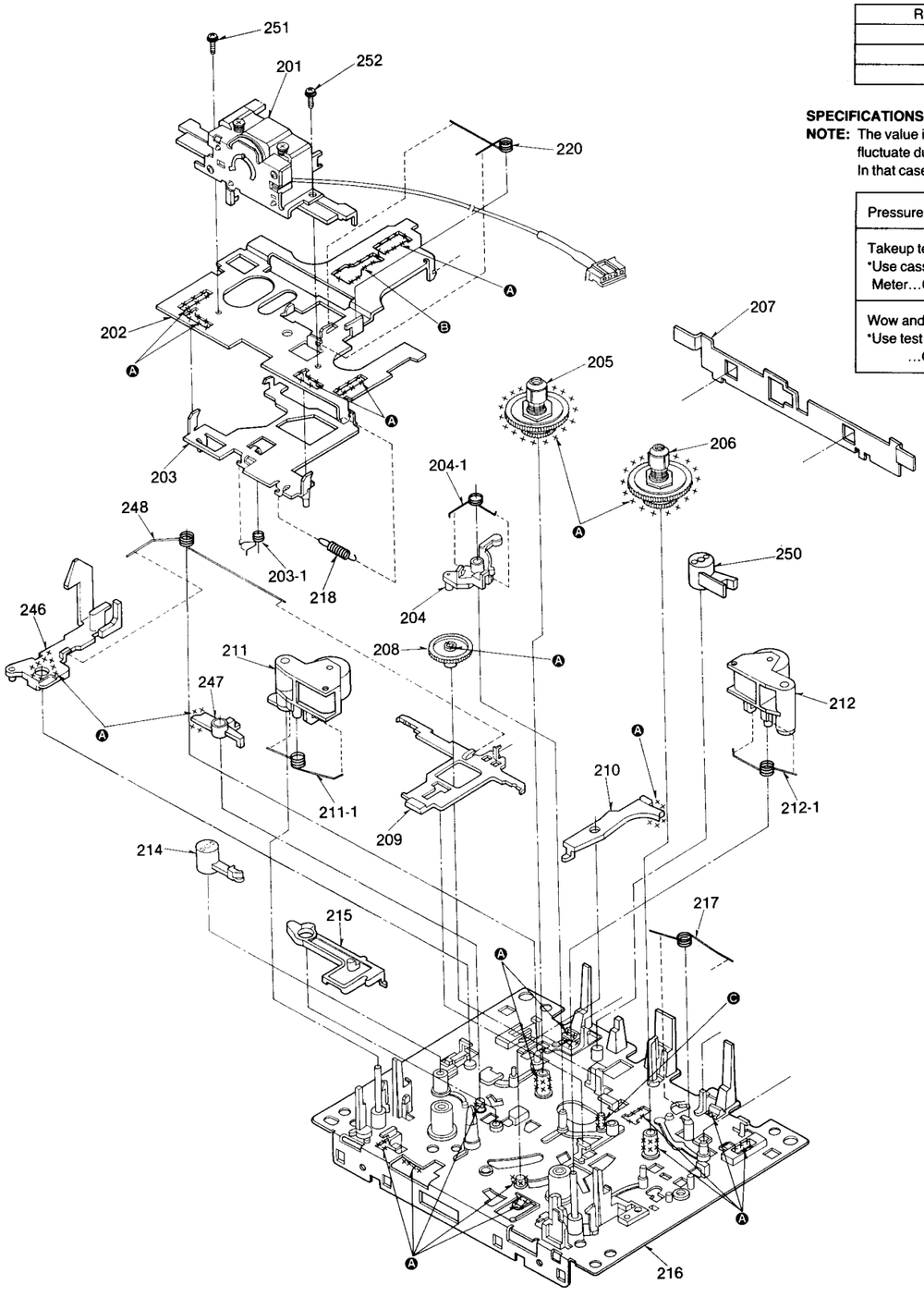
•MECHANICAL PARTS LIST

Ref. No.	Part No.	Description
(DECK A)		
CASSETTE DECK		
101	1MD0034Z	MAGNETIC HEAD
102	RUA793Z	PLATE
103	RZLAR300	ROD
103-1	RUW143Z	SPRING
104	1UB0089ZA	LEVER
104-1	RUW148ZA	COIL SPRING
105	1DM0018ZA	REEL ASS'Y
106	1DM0017ZA	REEL TABLE ASS'Y
107	RUB502ZC	LEVER
108	RDG5772Z	GEAR
109	RUB508ZA	LEVER
110	RUB506ZB	LEVER
111	1UB0088ZA	REEL ASS'Y
111-1	RUW141Z	SPRING
112	1UB0087ZA	ARM
112-1	RUW140ZB	COIL SPRING
113	RUB507ZC	LEVER
114	RNL1Z	DAMPER ARM
115	RUB503ZB	LEVER
116	RZUAR300	PLATE
117	RUW142ZA	COIL SPRING
118	RUD105Z	SPRING
119	RUW144ZA	COIL SPRING
120	RUW139ZA	SPRING
121	RFM134ZA	DC MOTOR
122	1UE0015ZA	PLUNGER
123	RUB428Z	LEVER
124	RUL1030ZC	ANGLE
125	RMD5014Z	BRACKET
126	RDG5927ZA	GEAR
127	1DW0037ZA	FLYWHEEL ASS'Y
127-1	RNW139ZA	WASHER
128	1DW0038Z	WHEEL
128-1	RNW138Z	WASHER
129	1DG0006ZA	GEAR ASS'Y
130	RUB513ZC	LEVER
131	1UB0091ZA	LEVER
131-1	RUW146ZA	COIL SPRING
132	1DR0011ZA	PULLEY ASS'Y
133	RDV90ZB	BELT
134	RDG5769Z	GEAR
135	RUQ10Z	SPRING
136	RUW145ZA	COIL SPRING
137	1UB0090ZA	ROD
137-1	RUB512ZB	LEVER
138	RDG5773Z	GEAR
139	RUQ30Z	SPRING
140	RUS609Z	SPRING
141	RUB514ZB	LEVER
142	RUW147ZA	COIL SPRING
143	RUB515Z	LEVER
144	RUB509ZA	LEVER
145	RDV108ZA	BELT
149	RHG3032Z	RUBBER CUSHION
150	RNL180Z	ARM
SCREWS,WASHERS AND NUTS		
151	XTW2+6L	SCREW
152	XTW2+8L	SCREW
153	XTN26+7J	SCREW
154	XTN26+16F	SCREW
155	XTW2+8S	SCREW
156	XYC2+JF16	SCREW
157	QHQ1303	SCREW

Ref. No.	Part No.	Description
(DECK B)		
CASSETTE DECK		
201	1MD0033Z	MAGNETIC HEAD
202	RUA793Z	PLATE
203	RZLAR300	ROD
203-1	RUW143Z	SPRING
204	1UB0089ZA	LEVER
204-1	RUW148ZA	COIL SPRING
205	1DM0018ZA	REEL ASS'Y
206	1DM0017ZA	REEL TABLE ASS'Y
207	RUB502ZC	LEVER
208	RDG5772Z	GEAR
209	RUB508ZA	LEVER
210	RUB506ZB	LEVER
211	1UB0088ZA	REEL ASS'Y
211-1	RUW141Z	SPRING
212	1UB0087ZA	ARM
212-1	RUW140ZB	COIL SPRING
214	RNL1Z	DAMPER ARM
215	RUB503ZB	LEVER
216	RZUAR300	PLATE
217	RUW142ZA	COIL SPRING
218	RUD105Z	SPRING
220	RUW139ZA	SPRING
221	RFM133ZA	DC MOTOR
222	1UE0015ZA	PLUNGER
223	RUB428Z	LEVER
224	RUL1030ZC	ANGLE
225	RMD5014Z	BRACKET
226	RDG5927ZA	GEAR
227	1DW0037ZA	FLYWHEEL ASS'Y
227-1	RNW139ZA	WASHER
228	1DW0038Z	WHEEL
228-1	RNW138Z	WASHER
229	1DG0006ZA	GEAR ASS'Y
230	RUB513ZC	LEVER
231	1UB0091ZA	LEVER
231-1	RUW146ZA	COIL SPRING
232	1DR0011ZA	PULLEY ASS'Y
233	RDV90ZB	BELT
234	RDG5769Z	GEAR
235	RUQ10Z	SPRING
236	RUW145ZA	COIL SPRING
237	1UB0090ZA	ROD
237-1	RUB512ZB	LEVER
238	RDG5773Z	GEAR
239	RUQ30Z	SPRING
240	RUS609Z	SPRING
241	RUB514ZB	LEVER
242	RUW147ZA	COIL SPRING
243	RUB515Z	LEVER
244	RUB509ZA	LEVER
245	RDV108ZA	BELT
246	RUB541Z	LEVER
247	RUB542Z	LEVER
248	RUW167Z	SPRING
249	RHG3032Z	RUBBER CUSHION
250	RNL180Z	ARM
SCREWS,WASHERS AND NUTS		
251	XTW2+6L	SCREW
252	XTW2+8L	SCREW
253	XTN26+7J	SCREW
254	XTN26+16F	SCREW
255	XTW2+8S	SCREW
256	XYC2+JF16	SCREW
257	QHQ1303	SCREW

■ EXPLODED VIEW •DECK B

(Top view)



Notes:

- When changing mechanism parts, apply the specified grease to the area marked "X X" shown in the drawing. (Exploded view DECK B).

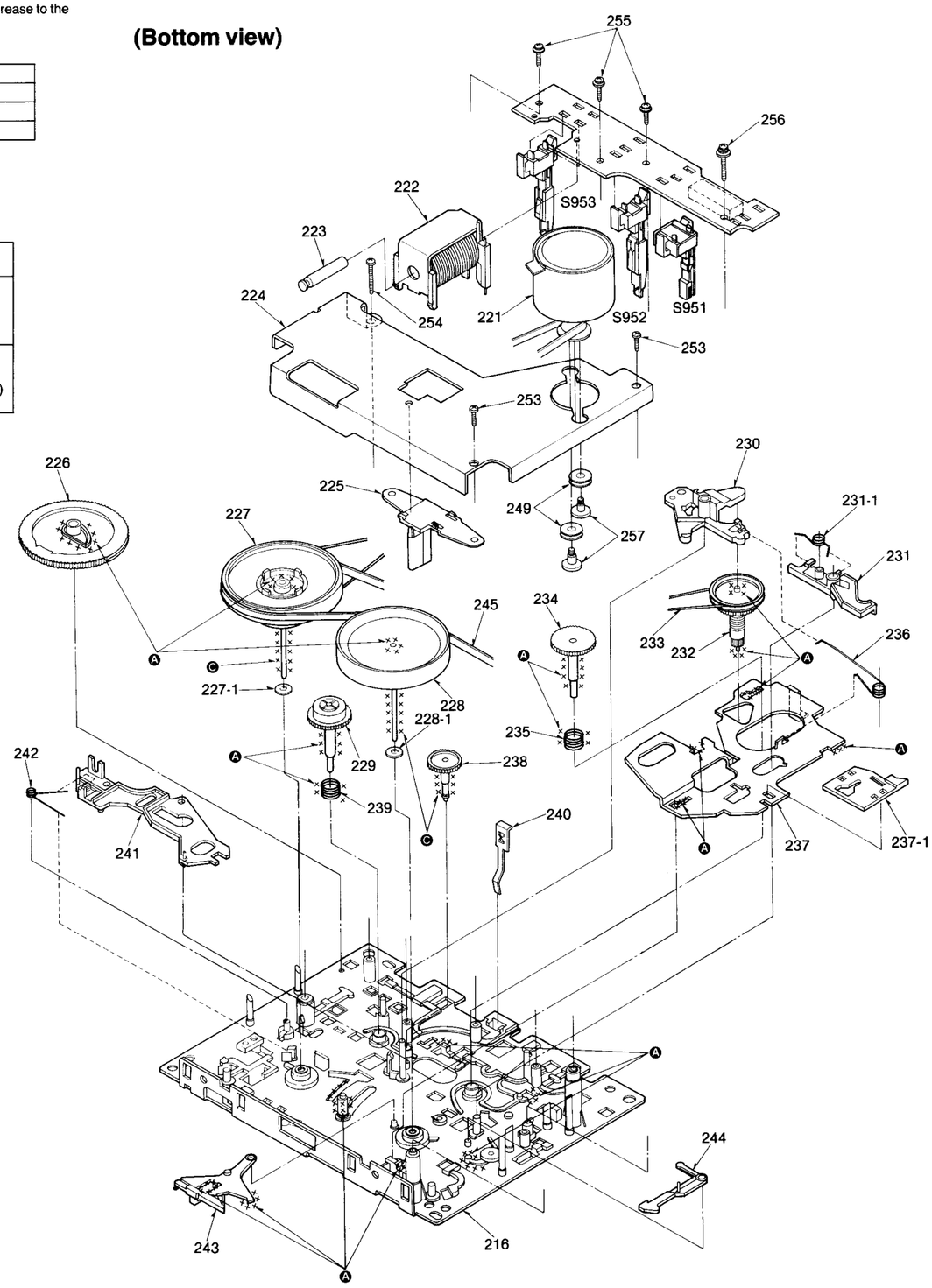
Ref. No.	Part No.
Ⓐ	RZZ0L18
Ⓑ	SZZ0L05
Ⓒ	RZZ0L02

SPECIFICATIONS

NOTE: The value indicated by the torque tape may fluctuate during torque measurement. In that case, obtain the middle of the values.

Pressure of pressure roller	270±50 g
Takeup tension *Use cassette torque Meter...QZZSRKCT	35~60 g-cm
Wow and flutter; (JIS) *Use test tape ...QZZCWAT	Less than 0.14% (WRMS)

(Bottom view)



•ELECTRICAL PARTS LIST

Ref. No.	Part No.	Description
INTEGRATED CIRCUITS		
IC301	AN6558F	I.C. PLAY BACK AMP
IC302	AN6558F	I.C. PLAY BACK AMP
IC303	AN6552F	I.C. PRE AMP
IC304	AN6552F	I.C. REC AMP
IC305	AN6552F	I.C. BUFFER AMP
IC501	AN6558F	I.C. PHONO EQ
IC502	TC9164N	I.C. INPUT SELECTOR
IC503	AN6558F	I.C. BUFFER AMP
IC504	TC9212P	I.C. ATTENUATOR
IC505	AN6558F	I.C. TONE AMP
IC506	AN6558F	I.C. BUFFER AMP
IC601	SVI3102B	I.C. POWER AMP
IC701	AN7812	I.C. REGULATOR
IC702	AN78M05	I.C. REGULATOR
IC703	AN7815	I.C. REGULATOR
IC801	LC6554H-3635	I.C. MICRO COMPUTER
IC802	AN90B22	I.C. LED DRIVE
IC803	TC9312AN-060	I.C. MECHA CONT.
IC804	TC9312AN-070	INTEGRATED CIRCUIT, MECHA CONT.
IC805	AN90B22	I.C. INTERFACE
IC901	CXA1101P	I.C. DOLBY NR.
IC951	DN6851A	I.C. HALL
TRANSISTORS		
Q301	2SC1740SQ	TRANSISTOR
Q302	2SC1740SQ	TRANSISTOR
Q303	2SC1740SQ	TRANSISTOR
Q304	2SC1740SQ	TRANSISTOR
Q305	2SC1740SQ	TRANSISTOR
Q306	2SC1740SQ	TRANSISTOR
Q307	2SD1330R	TRANSISTOR
Q308	2SD1330R	TRANSISTOR
Q309	2SC1740SQ	TRANSISTOR
Q310	2SC1740SQ	TRANSISTOR
Q311	2SC2784EF	TRANSISTOR, SI
Q312	2SC2784EF	TRANSISTOR, SI
Q313	2SC2784EF	TRANSISTOR, SI
Q315	2SC1740SQ	TRANSISTOR
Q316	2SC1740SQ	TRANSISTOR
Q317	2SD1330R	TRANSISTOR
Q318	2SD1330R	TRANSISTOR
Q319	2SD1330R	TRANSISTOR
Q320	2SD1330R	TRANSISTOR
Q321	2SC1740SQ	TRANSISTOR
Q322	2SC1740SQ	TRANSISTOR
Q323	2SC1740SQ	TRANSISTOR
Q324	2SC1740SQ	TRANSISTOR
Q325	2SC1740SQ	TRANSISTOR
Q326	2SC1740SQ	TRANSISTOR
Q327	2SC1740SQ	TRANSISTOR
Q328	2SC1740SQ	TRANSISTOR
Q329	2SD1330R	TRANSISTOR
Q330	2SD1330R	TRANSISTOR
Q401	2SA933SQR	TRANSISTOR
Q402	2SC1740SQ	TRANSISTOR
Q403	2SC1740SQ	TRANSISTOR
Q404	2SC1740SQ	TRANSISTOR
Q405	2SC1740SQ	TRANSISTOR
Q406	2SC2784EF	TRANSISTOR, SI
Q407	2SC2784EF	TRANSISTOR, SI
Q408	2SD592ANCQ	TRANSISTOR
Q409	2SD592ANCQ	TRANSISTOR
Q410	2SC1740SQ	TRANSISTOR
Q411	DTA114ESTP	TRANSISTOR
Q412	2SC1740SQ	TRANSISTOR
Q413	2SB621A-R	TRANSISTOR
Q414	2SD1330R	TRANSISTOR
Q415	2SC1384A-R	TRANSISTOR
Q416	2SA933SQR	TRANSISTOR
Q417	2SC1740SQ	TRANSISTOR
Q501	2SD1330R	TRANSISTOR
Q502	2SD1330R	TRANSISTOR
Q503	2SA933SQR	TRANSISTOR
Q505	2SC1740SQ	TRANSISTOR
Q506	2SC1740SQ	TRANSISTOR
Q507	2SC1740SQ	TRANSISTOR
Q508	2SC1740SQ	TRANSISTOR
Q509	2SC1740SQ	TRANSISTOR
Q510	2SC1740SQ	TRANSISTOR
Q701	2SB941-P	TRANSISTOR
Q702	2SA933SQR	TRANSISTOR
Q801	DTC124ES	TRANSISTOR
Q802	DTC124ES	TRANSISTOR
Q803	2SA933SQR	TRANSISTOR
Q805	2SB1030Q	TRANSISTOR
Q806	2SC1740SQ	TRANSISTOR
Q807	2SB1030Q	TRANSISTOR
Q808	2SC1740SQ	TRANSISTOR
Q809	2SC3311A-Q	TRANSISTOR
Q810	2SA933SQR	TRANSISTOR
Q811	2SB621A-R	TRANSISTOR
Q812	2SB621A-R	TRANSISTOR
Q813	2SC1740SQ	TRANSISTOR
Q814	2SC1740SQ	TRANSISTOR
Q815	DTC114YSTP	TRANSISTOR
Q816	2SC3311A-Q	TRANSISTOR
Q817	2SC3311A-Q	TRANSISTOR
Q818	2SK301	TRANSISTOR
Q819	2SK301	TRANSISTOR
Q821	2SA933SQR	TRANSISTOR
Q901	2SC1740SQ	TRANSISTOR
Q903	2SD1330R	TRANSISTOR
Q904	2SD1330R	TRANSISTOR
DIODES		
D401	MA165	DIODE
D402	MA4082M	DIODE
D403	MA165	DIODE
D404	MA29WA	DIODE
D406	MA165	DIODE
D407	MA165	DIODE
D408	MA165	DIODE
D409	MA165	DIODE
D410	MA165	DIODE
D411	MA165	DIODE
D412	MA165	DIODE
D413	MA29WA	DIODE
D414	MA165	DIODE
D504	MA165	DIODE
D701	SVDS2V20	RECTIFIER
D702	SVDS2V20	RECTIFIER
D703	SVDS2V20	RECTIFIER
D704	SVDS2V20	RECTIFIER
D705 ⚠	SVD1SR35200A	RECTIFIER
D706 ⚠	SVD1SR35200A	RECTIFIER
D707 ⚠	SVD1SR35200A	RECTIFIER
D708 ⚠	SVD1SR35200A	RECTIFIER
D709	MA165	DIODE
D710	MA165	DIODE
D712	MA165	DIODE
D801	MA165	DIODE
D803	LN058449P	L.E.D.
D804	LN058449P	L.E.D.
D805	LN058449P	L.E.D.
D806	LN058449P	L.E.D.
D807	LN058449P	L.E.D.
D808	MA165	DIODE
D809	LN081450P	L.E.D
D810	LN081450P	L.E.D
D811	LN081450P	L.E.D
D812	LN081450P	L.E.D
D813	LN081450P	L.E.D
D814	LN081450P	L.E.D
D815	LN081450P	L.E.D
D816	LN081450P	L.E.D
D817	LN346GP-C	DIODE, GAASP
D818	LN346GP-C	DIODE, GAASP
D819	LN346GP-C	DIODE, GAASP
D820	LN846RP-C	L.E.D
D821	LN346GP-C	DIODE, GAASP
D822	LN346GP-C	DIODE, GAASP
D823	LN846RP-C	L.E.D
D824	LN346GP-C	DIODE, GAASP
D825	MA165	DIODE
D826	MA165	DIODE
D827	MA165	DIODE
D828	LN346GP-C	DIODE, GAASP
D828	MA165	DIODE
D829	LN346GP-C	DIODE, GAASP
D829	MA165	DIODE
D830	MA165	DIODE
D831	MA165	DIODE
D832	MA165	DIODE
D833	MA165	DIODE
D834	MA165	DIODE
D835	MA165	DIODE
D836	MA165	DIODE
D838	MA165	DIODE
D839	MA165	DIODE
D840	MA4047M	DIODE
D841	LN346GP-C	DIODE, GAASP
D842	LN346GP-C	DIODE, GAASP
D845	MA165	DIODE
D901	MA165	DIODE
D902	MA165	DIODE
D903	MA165	DIODE
D904	MA165	DIODE
D951	1SS133	DIODE
VARIABLE RESISTORS		
VR301	EVND4AA00B24	V.R
VR302	EVND4AA00B24	V.R
VR303	EVND4AA00B24	V.R
VR304	EVND4AA00B24	V.R
VR305	EVND4AA00B54	V.R.
VR306	EVND4AA00B54	V.R.
VR401	EVND4AA00B25	V.R.
VR402	EVND4AA00B25	V.R.
VR403	EVND4AA00B53	V.R
VR501	EWCXEA011C15	V.R
VR502	EWCXEA011C15	V.R
VR801	EVQWWVF2024B	V.R.
VR802	SVNAA14B2-Q	V.R
VR803	SVNAA14B2-Q	V.R
VR804	SVNAA14B2-Q	V.R
VR805	SVNAA14B2-Q	V.R
COILS AND TRANSFORMERS		
L301	SLQX303-1K	CHOKE COIL
L302	SLQX303-1K	CHOKE COIL
L303	QLB5X2722D	COIL
L304	QLB5X2722D	COIL
L401	SL09C9-K	OSCILLATOR COIL
L402	ELEPK120KA	COIL
L403	RLQZP1R2KT-Y	CHOKE COIL
L701	SLQF1	CHOKE
L801	ELEPK101KA	CHOKE COIL
L802	ELEPK101KA	CHOKE COIL
L803	ELEPK101KA	CHOKE COIL
L804	ELEPK101KA	CHOKE COIL
L805	SLQU270-4Y	CHOKE COIL
L806	SLQU270-4Y	CHOKE COIL
L807	SLQU270-4Y	CHOKE COIL
L808	SLQU270-4Y	CHOKE COIL
L901	SLM1B9-P	MPX COIL
L902	SLM1B9-P	MPX COIL
T1 ⚠ (EK)	SLT5M537-K	POWER TRANSFORMER
T1 ⚠ (EH, EB, EF, E)	SLT5M538-K	POWER TRANSFORMER
COMPONENT COMBINATIONS		
Z801	EXBF6E331J	COMBINATION PART
Z802	EXBF9E102J	COMBINATION PART
Z803	EXBF5E472J	COMPONENT COMBINATION
FUSES		
F1	XBA2C12TR0	FUSE
F2 ⚠ (EH, EB, EF, E)	XBA2C20TB0	FUSE 250V, T2A
SWITCHES		
S401	SSS150	SW
S501	SSH1196	SW
S701 ⚠	ESB8249V	SW, POWER
S801	EVQQB005R	SW
S802	EVQQB005R	SW
S803	EVQQB005R	SW
S804	EVQQB005R	SW
S805	EVQQB005R	SW
S806	EVQQB005R	SW
S807	EVQQB005R	SW
S808	EVQQB005R	SW
S809	EVQQB005R	SW
S810	EVQQB005R	SW
S811	EVQQB005R	SW
S812	EVQQB005R	SW
S813	EVQQB005R	SW
S814	EVQQB005R	SW
S815	EVQQB005R	SW
S816	EVQQB005R	SW
S817	EVQQB005R	SW
S818	EVQQB005R	SW
S819	EVQQB005R	SW
S820	EVQQB005R	SW
S821	EVQQB005R	SW
S822	EVQQB005R	SW
S823	SSS180-1	SLIDE SWITCH
S824	SSS180-1	SLIDE SWITCH
S825	SSS181-1	SLIDE SWITCH
S901	SSH1159	SW, SPEAKER
S951	RSH1A89ZA	SW
S952	RSH1A90Z	SW
S953	RSH1A90Z	SW
S971	RSH1A89ZA	SW
S972	RSH1A90Z	SW
S973	RSH1A90Z	SW
S974	RSH1A90Z	SW
S975	RSH1A90Z	SW
S976	RSH1A90Z	SW
OTHERS		
X801	EF0FC3004A4	CRYSTAL OSCILLATOR

■ RESISTORS AND CAPACITORS

Notes : * Important safety notice :
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
* Bracketed indications in Ref. No. columns specify the area. (Refer to the first page for area.)
Parts without these indications can be used for all areas.

Numbering System of Resistor

Example:

ERD	25	F	J	102
Type	Wattage (1/4W)	Shape	Tolerance	Value (1KΩ)
ERX	2	AN	J	471
Type	Wattage (2W)	Shape	Tolerance	Value (470Ω)

Numbering System of Capacitor

Example:

ECKD	1H	102	Z	F
Type	Voltage (50V)	Value (0.001μF)	Tolerance	Peculiarity
ECEA	50	M	330	
Type	Voltage (50V)	Pecliarity	Value (33μF)	

- Capacity are in microfarads (μF) unless specified otherwise, P = Pico-farads (pF) F = Farads (F).
- Resistance are in ohms (Ω), unless specified otherwise, 1K = 1,000Ω, 1M = 1,000kΩ

Resistor Type		Wattage		Tolerance
ERD	: Carbon	10 : 1/8W	12 : 1/2W	J : ±5%
ERG	: Metal Oxide	14 : 1/4W	25 : 1/4W	F : ±1%
ERQ	: Fuse Type Metal	1A : 1W	18 : 1/8W	G : ±2%
ERX	: Metal Film	S2 : 1/4W	S1 : 1/2W	J : ±5%
ERD L	: Carbon (chip)	2F : 1/4W	50 : 1/2W	K : ±10%
ERO K	: Metal Film (chip)	2A : 2W	3A : 3W	M : ±20%
ERC	: Solid	6G : 1/10W	8G : 1/8W	
ERF	: Incombustible Box-Shaped			
ERM	: Wire-Wound			
RRJ	: Cip Resistor			
ERJ	: Cip Resistor			

Capacitor Type		Voltage		Tolerance
ECE	: Electroiytic	0J : 6.3V	1A : 10V	K : ±10%
ECCD	: Ceramic	1C : 16V	1E : 25V	M : ±20%
ECKD	: Ceramic Capacitor	1H : 50V	1V : 35V	Z : +80 % −20
ECQM	: Poyester	50 : 50V	05 : 50V	J : ±5%
ECQP	: Polypropylene	2H : 500V	2A : 100V	G : ±2%
ECG	: Ceramic	1 : 100V	1J : 63V	F : ±1%
ECEA N	: Non Polar Electrolytic	KC : 400V AC		C : ±0.25pF
QCU	: Ceramic (Chip Type)	KC : 125V AC (UL)		D : ±0.5pF
ECUX	: Ceramic (Chip Type)			
ECF	: Semiconductor			
EECW	: Liquid electrolyte double layer capacitor			

Ref. No.	Part No.	Value.
RESISTORS(VALUE,WATTAGE)		
R301	ERDS2TJ101	100 1/4
R302	ERDS2TJ101	100 1/4
R303	ERDS2TJ104	100K 1/4
R304	ERDS2TJ104	100K 1/4
R305	ERDS2TJ473	47K 1/4
R306	ERDS2TJ473	47K 1/4
R307	ERDS2TJ224	220K 1/4
R308	ERDS2TJ224	220K 1/4
R309	ERDS2TJ394	390K 1/4
R310	ERDS2TJ394	390K 1/4
R311	ERDS2TJ121	120 1/4
R312	ERDS2TJ121	120 1/4
R315	ERDS2TJ163	16K 1/4
R316	ERDS2TJ163	16K 1/4
R317	ERDS2TJ332	3.3K 1/4
R318	ERDS2TJ332	3.3K 1/4
R319	ERDS2TJ392	3.9K 1/4
R320	ERDS2TJ392	3.9K 1/4
R321	ERDS2TJ224	220K 1/4
R322	ERDS2TJ224	220K 1/4
R323	ERDS2TJ472	4.7K 1/4
R324	ERDS2TJ472	4.7K 1/4
R325	ERDS2TJ224	220K 1/4
R326	ERDS2TJ224	220K 1/4
R327	ERDS2TJ102	1K 1/4
R328	ERDS2TJ102	1K 1/4
R329	ERDS2TJ392	3.9K 1/4
R330	ERDS2TJ392	3.9K 1/4
R331	ERDS2TJ472	4.7K 1/4
R332	ERDS2TJ472	4.7K 1/4
R333	ERD25FJ100	10 1/4
R334	ERD25FJ100	10 1/4
R335	ERDS2TJ472	4.7K 1/4
R336	ERDS2TJ472	4.7K 1/4
R337	ERDS2TJ472	4.7K 1/4
R338	ERDS2TJ472	4.7K 1/4
R339	ERDS2TJ561	560 1/4
R341	ERD25FJ101	100 1/4
R342	ERD25FJ101	100 1/4
R343	ERDS2TJ224	220K 1/4
R344	ERDS2TJ224	220K 1/4
R345	ERDS2TJ394	390K 1/4
R346	ERDS2TJ394	390K 1/4
R347	ERDS2TJ163	16K 1/4
R348	ERDS2TJ163	16K 1/4
R351	ERDS2TJ121	120 1/4
R352	ERDS2TJ121	120 1/4
R353	ERDS2TJ392	3.9K 1/4
R354	ERDS2TJ392	3.9K 1/4
R355	ERDS2TJ472	4.7K 1/4
R356	ERDS2TJ472	4.7K 1/4
R357	ERDS2TJ224	220K 1/4
R358	ERDS2TJ224	220K 1/4
R359	ERDS2TJ103	10K 1/4
R360	ERDS2TJ103	10K 1/4
R361	ERDS2TJ103	10K 1/4
R362	ERDS2TJ103	10K 1/4
R365	ERDS2TJ224	220K 1/4
R366	ERDS2TJ224	220K 1/4
R367	ERDS2TJ223	22K 1/4
R368	ERDS2TJ223	22K 1/4
R369	ERDS2TJ102	1K 1/4
R370	ERDS2TJ102	1K 1/4
R371	ERDS2TJ103	10K 1/4
R372	ERDS2TJ103	10K 1/4
R373	ERDS2TJ222	2.2K 1/4
R374	ERDS2TJ222	2.2K 1/4
R375	ERDS2TJ680	68 1/4
R376	ERDS2TJ680	68 1/4
R377	ERDS2TJ103	10K 1/4
R378	ERDS2TJ103	10K 1/4
R379	ERDS2TJ222	2.2K 1/4
R380	ERDS2TJ222	2.2K 1/4
R383	ERDS2TJ222	2.2K 1/4
R384	ERDS2TJ222	2.2K 1/4
R385	ERDS2TJ821	820 1/4
R386	ERDS2TJ821	820 1/4
R387	ERDS2TJ223	22K 1/4
R388	ERDS2TJ223	22K 1/4
R389	ERDS2TJ822	8.2K 1/4
R390	ERDS2TJ822	8.2K 1/4
R391	ERDS2TJ273	27K 1/4
R392	ERDS2TJ273	27K 1/4
R393	ERDS2TJ224	220K 1/4
R394	ERDS2TJ224	220K 1/4
R397	ERDS2TJ560	56 1/4
R398	ERDS2TJ560	56 1/4
R401	ERDS2TJ223	22K 1/4
R402	ERDS2TJ223	22K 1/4
R403	ERDS2TJ223	22K 1/4
R405	ERDS2TJ473	47K 1/4
R406	ERDS2TJ102	1K 1/4
R407	ERDS2TJ331	330 1/4
R408	ERDS2TJ332	3.3K 1/4
R409	ERDS2TJ473	47K 1/4
R410	ERDS2TJ103	10K 1/4
R413	ERDS2TJ103	10K 1/4
R414	ERDS2TJ473	47K 1/4
R415	ERDS2TJ471	470 1/4
R416	ERDS2TJ471	470 1/4
R417	ERDS2TJ103	10K 1/4
R418	ERDS2TJ103	10K 1/4
R419	ERDS2TJ103	10K 1/4
R420	ERDS2TJ103	10K 1/4
R422	ERDS2TJ221	220 1/4
R423	ERD25FJ1R0	1 1/4
R424	ERDS2TJ820	82 1/4
R425	ERDS2TJ221	220 1/4
R426	ERDS2TJ4R7	4.7 1/4
R427	ERDS2TJ4R7	4.7 1/4
R428	ERDS2TJ183	18K 1/4
R429	ERDS2TJ183	18K 1/4
R430	ERD2FCG100	10 1/4
R431	ERDS2TJ221	220 1/4
R432	ERDS2TJ271	270 1/4
R433	ERDS2TJ331	330 1/4
R434	ERDS2TJ222	2.2K 1/4
R435	ERDS2TJ103	10K 1/4
R436	ERDS2TJ223	22K 1/4
R437	ERDS2TJ223	22K 1/4
R438	ERDS2TJ103	10K 1/4
R439	ERDS2TJ103	10K 1/4
R440	ERDS2TJ472	4.7K 1/4
R441	ERDS2TJ472	4.7K 1/4

Ref. No.	Part No.	Value.
R442	ERDS2TJ472	4.7K 1/4
R443	ERDS2TJ222	2.2K 1/4
R444	ERDS2TJ222	2.2K 1/4
R445	ERDS2TJ104	100K 1/4
R446	ERDS2TJ104	100K 1/4
R447	ERDS2TJ102	1K 1/4
R448	ERDS2TJ222	2.2K 1/4
R449	ERDS2TJ223	22K 1/4
R450	ERDS2TJ103	10K 1/4
R451	ERDS2TJ103	10K 1/4
R452	ERDS2TJ102	1K 1/4
R453	ERDS2TJ103	10K 1/4
R455	ERDS2TJ103	10K 1/4
R456	ERDS2TJ103	10K 1/4
R457	ERDS2TJ103	10K 1/4
R458	ERDS2TJ103	10K 1/4
R459	ERD2FCG100	10 1/4
R460	ERDS2TJ222	2.2K 1/4
R465	ERDS2TJ221	220 1/4
R466	ERDS2TJ153	15K 1/4
R467	ERDS2TJ221	220 1/4
R468	ERDS2TJ102	1K 1/4
R501	ERDS2TJ222	2.2K 1/4
R502	ERDS2TJ222	2.2K 1/4
R503	ERDS2TJ332	3.3K 1/4
R504	ERDS2TJ332	3.3K 1/4
R505	ERDS2TJ102	1K 1/4
R506	ERDS2TJ102	1K 1/4
R507	ERDS2TJ223	22K 1/4
R508	ERDS2TJ223	22K 1/4
R509	ERDS2TJ391	390 1/4
R510	ERDS2TJ391	390 1/4
R511	ERDS2TJ224	220K 1/4
R512	ERDS2TJ224	220K 1/4
R513	ERDS2TJ563	56K 1/4
R514	ERDS2TJ563	56K 1/4
R515	ERDS2TJ680	68 1/4
R516	ERDS2TJ680	68 1/4
R517	ERDS2TJ271	270 1/4
R518	ERDS2TJ271	270 1/4
R519	ERDS2TJ184	180K 1/4
R520	ERDS2TJ184	180K 1/4
R521	ERDS2TJ123	12K 1/4
R522	ERDS2TJ123	12K 1/4
R523	ERDS2TJ563	56K 1/4
R524	ERDS2TJ563	56K 1/4
R525	ERDS2TJ221	220 1/4
R526	ERDS2TJ221	220 1/4
R527	ERDS2TJ102	1K 1/4
R528	ERDS2TJ102	1K 1/4
R529	ERDS2TJ224	220K 1/4
R530	ERDS2TJ104	100K 1/4
R531	ERDS2TJ272	2.7K 1/4
R532	ERDS2TJ272	2.7K 1/4
R533	ERDS2TJ102	1K 1/4
R534	ERDS2TJ102	1K 1/4
R535	ERDS2TJ473	47K 1/4
R536	ERDS2TJ473	47K 1/4
R537	ERDS2TJ473	47K 1/4
R538	ERDS2TJ103	10K 1/4
R539	ERDS2TJ103	10K 1/4
R540	ERDS2TJ103	10K 1/4
R543	ERDS2TJ272	2.7K 1/4
R544	ERDS2TJ182	1.8K 1/4
R545	ERDS2TJ472	4.7K 1/4
R546	ERDS2TJ104	100K 1/4
R547	ERDS2TJ103	10K 1/4
R549	ERDS2TJ104	100K 1/4
R550	ERDS2TJ224	220K 1/4
R551	ERDS2TJ224	220K 1/4
R552	ERDS2TJ224	220K 1/4
R553	ERDS2TJ823	82K 1/4
R554	ERDS2TJ823	82K 1/4
R555	ERDS2TJ224	220K 1/4
R556	ERDS2TJ224	220K 1/4
R557	ERDS2TJ272	2.7K 1/4
R558	ERDS2TJ272	2.7K 1/4
R559	ERDS2TJ224	220K 1/4
R560	ERDS2TJ224	220K 1/4
R561	ERDS2TJ102	1K 1/4
R562	ERDS2TJ102	1K 1/4
R563	ERDS2TJ682	6.8K 1/4
R564	ERDS2TJ682	6.8K 1/4
R565	ERDS2TJ223	22K 1/4
R566	ERDS2TJ223	22K 1/4
R567	ERDS2TJ392	3.9K 1/4
R568	ERDS2TJ392	3.9K 1/4
R569	ERDS2TJ223	22K 1/4
R570	ERDS2TJ223	22K 1/4
R571	ERDS2TJ222	2.2K 1/4
R572	ERDS2TJ222	2.2K 1/4
R573	ERDS2TJ102	1K 1/4
R574	ERDS2TJ102	1K 1/4
R575	ERDS2TJ472	4.7K 1/4
R576	ERDS2TJ472	4.7K 1/4
R579	ERDS2TJ473	47K 1/4
R581	ERDS2TJ563	56K 1/4
R582	ERDS2TJ563	56K 1/4
R584	ERDS2TJ224	220K 1/4
R585	ERDS2TJ563	56K 1/4
R586	ERDS2TJ563	56K 1/4
R587	ERDS2TJ332	3.3K 1/4
R588	ERDS2TJ332	3.3K 1/4
R589	ERDS2TJ224	220K 1/4
R590	ERDS2TJ224	220K 1/4
R591	ERDS2TJ472	4.7K 1/4
R592	ERDS2TJ472	4.7K 1/4
R593	ERDS2TJ472	4.7K 1/4
R595	ERDS2TJ153	15K 1/4
R596	ERDS2TJ153	15K 1/4
R597	ERDS2TJ473	47K 1/4
R598	ERDS2TJ473	47K 1/4
R599	ERDS2TJ103	10K 1/4
R601	ERDS2TJ102	1K 1/4
R602	ERDS2TJ102	1K 1/4
R603	ERDS2TJ393	39K 1/4
R604	ERDS2TJ393	39K 1/4
R605	ERDS2TJ393	39K 1/4
R606	ERDS2TJ393	39K 1/4
R607	ERDS2TJ272	2.7K 1/4
R608	ERDS2TJ272	2.7K 1/4
R609	ERDS2TJ154	150K 1/4
R610	ERDS1FJ331	330 1/2
R611	ERDS2TJ154	150K 1/4
R612	ERDS2TJ103	10K 1/4
R613	ERDS1FJ100	10 1/2
R614	ERDS1FJ100	10 1/2
R615	ERDS2TJ151	150 1/4
R616	ERDS2TJ151	150 1/4
R617	ERDS2TJ151	150 1/4
R618	ERDS2TJ151	150 1/4
R702	ERDS2TJ153	15K 1/4
R703	ERDS2TJ182	1.8K 1/4
R704	ERDS2TJ153	15K 1/4
R705	ERDS2TJ562	5.6K 1/4
R706	ERD2FCG820	82 1/4
R707	ERDS2TJ103	10K 1/4
R708	ERDS2TJ563	56K 1/4
R709	ERDS2TJ154	150K 1/4
R710	ERM12PJR33	0.33 1/2
R711	ERDS1FJ820	82 1/2
R801	ERDS2TJ102	1K 1/4
R802	ERDS2TJ102	1K 1/4
R803	ERDS2TJ102	1K 1/4
R804	ERDS2TJ102	1K 1/4
R805	ERDS2TJ102	1K 1/4
R806	ERDS2TJ103	10K 1/4
R807	ERDS2TJ103	10K 1/4
R808	ERDS2TJ103	10K 1/4
R809	ERDS2TJ472	4.7K 1/4
R810	ERDS2TJ103	10K 1/4
R811	ERDS2TJ563	56K 1/4
R812	ERDS2TJ154	150K 1/4
R813	ERDS2TJ102	1K 1/4
R814	ERDS2TJ153	15K 1/4
R815	ERDS2TJ153	15K 1/4
R816	ERDS2TJ561	560 1/4
R817	ERDS2TJ103	10K 1/4
R818	ERDS2TJ472	4.7K 1/4
R819	ERDS2TJ472	4.7K 1/4
R820	ERDS2TJ472	4.7K 1/4
R821	ERDS2TJ472	4.7K 1/4
R822	ERDS2TJ472	4.7K 1/4
R823	ERDS2TJ104	100K 1/4
R824	ERDS2TJ104	100K 1/4
R825	ERDS2TJ472	4.7K 1/4
R826	ERDS2TJ223	22K 1/4
R827	ERDS2TJ102	1K 1/4
R828	ERDS2TJ333	33K 1/4
R829	ERDS2TJ103	10K 1/4
R830	ERDS2TJ102	1K 1/4
R831	ERDS2TJ103	10K 1/4
R832	ERDS2TJ333	33K 1/4
R833	ERDS2TJ102	1K 1/4
R834	ERDS2TJ472	4.7K 1/4
R835	ERDS2TJ472	4.7K 1/4
R836	ERDS2TJ103	10K 1/4
R837	ERDS2TJ331	330 1/4
R838	ERDS2TJ103	10K 1/4
R839	ERDS2TJ181	180 1/4
R840	ERDS2TJ181	180 1/4
R841	ERDS2TJ181	180 1/4
R842	ERDS2TJ271	270 1/4
R843	ERDS2TJ181	180 1/4
R844	ERDS2TJ271	270 1/4
R845	ERDS2TJ181	180 1/4
R846	ERDS2TJ222	2.2K 1/4
R847	ERDS2TJ222	2.2K 1/4
R848	ERDS2TJ103	10K 1/4
R849	ERDS2TJ181	180 1/4
R850	ERDS2TJ181	180 1/4
R851	ERDS2TJ471	470 1/4
R852	ERDS2TJ471	470 1/4
R853	ERDS2TJ472	4.7K 1/4
R854	ERDS2TJ472	4.7K 1/4
R855	ERDS2TJ123	12K 1/4
R856	ERDS2TJ123	12K 1/4
R857	ERDS2TJ153	15K 1/4
R858	ERDS2TJ153	15K 1/4
R859	ERDS2TJ182	1.8K 1/4
R860	ERDS2TJ182	1.8K 1/4
R861	ERDS2TJ105	1M 1/4
R862	ERDS2TJ105	1M 1/4
R863	ERDS2TJ104	100K 1/4
R864	ERDS2TJ104	100K 1/4
R865	ERDS2TJ104	100K 1/4
R868	ERDS2TJ103	10K 1/4
R869	ERDS2TJ332	3.3K 1/4
R870	ERDS2TJ272	2.7K 1/4
R871	ERDS2TJ104	100K 1/4
R901	ERDS2TJ682	6.8K 1/4
R902	ERDS2TJ682	6.8K 1/4
R903	ERDS2TJ103	10K 1/4
R904	ERDS2TJ333	33K 1/4
R905	ERDS2TJ221	220 1/4
R906	ERDS2TJ103	10K 1/4
R907	ERDS2TJ103	10K 1/4
R908	ERDS2TJ332	3.3K 1/4
R909	ERDS2TJ473	47K 1/4
R910	ERDS2TJ102	1K 1/4
R911	ERDS2TJ103	10K 1/4
R912	ERDS2TJ223	22K 1/4
R913	ERDS2TJ272	2.7K 1/4
R914	ERDS2TJ272	2.7K 1/4
R915	ERDS2TJ472	4.7K 1/4
R916	ERDS2TJ472	4.7K 1/4
R917	ERDS2TJ103	10K 1/4
R918	ERDS2TJ103	10K 1/4
CAPACITORS(VALUE,VOLTAGE)		
C301	ECKD1H151KB	150P 50

Ref. No.	Part No.	Value.
C302	ECKD1H151KB	150P 50
C303	ECKD1H391KB	390P 50
C304	ECKD1H391KB	390P 50
C305	ECKD1H221KB	220P 50
C306	ECKD1H221KB	220P 50
C307	ECQB1H822JZ	0.0082 50
C308	ECQB1H822JZ	0.0082 50
C309	ECEA0JK470	47 6.3
C310	ECEA0JK470	47 6.3
C311	ECEA1EK4R7	4.7 25
C312	ECEA1EK4R7	4.7 25
C313	ECFTD103KXL	0.01 25
C314	ECFTD103KXL	0.01 25
C315	ECFTD153KXL	0.015 25
C316	ECFTD153KXL	0.015 25
C317	ECFTD333KXL	0.033 25
C318	ECFTD333KXL	0.033 25
C319	ECKD1H681K	680P 50
C320	ECKD1H681K	680P 50
C321	ECKD1H221KB	220P 50
C322	ECKD1H221KB	220P 50
C323	ECQB1H822JZ	0.0082 50
C324	ECQB1H822JZ	0.0082 50
C325	ECEA0JK470	47 6.3
C326	ECEA0JK470	47 6.3
C327	ECEA1EK4R7	4.7 25
C328	ECEA1EK4R7	4.7 25
C329	ECFTD153KXL	0.015 25
C330	ECFTD153KXL	0.015 25
C331	ECEA1EK4R7	4.7 25
C332	ECEA1EK4R7	4.7 25
C333	ECFTD562KXL	0.0056 25
C334	ECFTD562KXL	0.0056 25
C335	ECQB1H223JZ	0.022 50
C336	ECQB1H223JZ	0.022 50
C337	ECFTD223KXL	0.022 25
C338	ECFTD223KXL	0.022 25
C339	ECFTD103KXL	0.01 25
C340	ECFTD103KXL	0.01 25
C343	ECFTD392KXL	0.0039 25
C344	ECFTD392KXL	0.0039 25
C345	ECEA1HKR33	0.33 50
C346	ECEA1HKR33	0.33 50
C349	ECEA1HK010	1 50
C350	ECEA1HK010	1 50
C351	ECKD1H680KB	68P 50
C352	ECKD1H680KB	68P 50
C353	ECKD1H821KB	820P 50
C354	ECKD1H821KB	820P 50
C355	ECEA1EK4R7	4.7 25
C356	ECEA1EK4R7	4.7 25
C357	ECCD1H020CC	2P 50
C358	ECCD1H020CC	2P 50
C359	ECFTD122KXL	0.0012 25
C360	ECFTD152KXL	0.0015 25
C401	ECEA1CU470	47 16
C402	ECKD1H103PF	0.01 50
C403	ECKD1H103PF	0.01 50
C404	ECKD1H103PF	0.01 50
C405	ECEA1CU470	47 16
C406	ECEA1CU470	47 16
C407	ECEA1CK220	22 16
C408	ECEA1CU470	47 16
C410	ECKD1H471KB	470P 50
C411	ECKD1H471KB	470P 50
C412	ECQP1222JZ	0.0022 100
C413	ECQP1122JZ	0.0012 100
C414	ECQV1H104JZ	0.1 50
C415	ECQV1H104JZ	0.1 50
C416	ECQP1103JZ	0.01 100
C417	ECFTD153KXL	0.015 25
C418	ECFTD332KXL	0.0033 25
C419	ECFTD332KXL	0.0033 25
C420	ECFTD682KXL	0.0068 25
C421	ECEA1CU470	47 16
C422	ECKD1H103PF	0.01 50
C423	ECKD1H103PF	0.01 50
C424	ECFTD392KXL	0.0039 25
C425	ECKD1H103PF	0.01 50
C426	ECKD1H103PF	0.01 50
C427	ECEA1EK4R7	4.7 25
C428	ECEA1HK3R3	3.3 50
C433	ECKD1H103PF	0.01 50
C435	ECKD1H103PF	0.01 50
C461	ECEA1CKS100	10 16
C501	ECEA1HK3R3	3.3 50
C502	ECEA1HK3R3	3.3 50
C503	ECKR1H101KB	100P 50
C504	ECKR1H101KB	100P 50
C505	ECKD1H102KB	0.001 50
C506	ECKD1H102KB	0.001 50
C507	ECEA0JK330	33 6.3
C508	ECEA0JK330	33 6.3
C509	ECFTD223KXL	0.022 25
C510	ECFTD223KXL	0.022 25
C511	ECFTD682KXL	0.0068 25
C512	ECFTD682KXL	0.0068 25
C513	ECEA1HK010	1 50
C514	ECEA1HK010	1 50
C515	ECKD1H103PF	0.01 50
C516	ECKD1H103PF	0.01 50
C517	ECEA1EK4R7	4.7 25
C518	ECEA1EK4R7	4.7 25
C519	ECKD1H103PF	0.01 50
C520	ECKD1H103PF	0.01 50
C521	ECKD1H103PF	0.01 50
C522	ECKD1H103PF	0.01 50
C523	ECCD1H470K	47P 50
C525	ECEA1EK4R7	4.7 25
C526	ECEA1CK220	22 16
C527	ECCD1H150KC	15P 50
C528	ECCD1H150KC	15P 50
C529	ECKR1H101KB	100P 50
C530	ECKR1H101KB	100P 50
C531	ECKR1H101KB	100P 50
C532	ECKR1H101KB	100P 50
C533	ECEA1HK010	1 50
C534	ECEA1HK010	1 50
C535	ECEA1HKR47	0.47 50
C536	ECEA1HKR47	0.47 50
C537	ECEA1HK010	1 50
C538	ECEA1HK010	1 50
C539	ECFTD473KXL	0.047 25
C540	ECFTD473KXL	0.047 25
C541	ECFTD183KXL	0.018 25
C542	ECFTD183KXL	0.018 25
C543	ECFTD104KXL	0.1 25
C544	ECFTD104KXL	0.1 25
C545	ECFTD332KXL	0.0033 25
C546	ECFTD332KXL	0.0033 25
C547	ECFTD223KXL	0.022 25
C548	ECFTD223KXL	0.022 25
C549	ECKD1H103PF	0.01 50
C550	ECKD1H103PF	0.01 50
C551	ECEA1AK470	47 10
C552	ECEA1EK4R7	4.7 25
C553	ECFTD473KXL	0.047 25
C554	ECFTD473KXL	0.047 25
C555	ECEA1HK010	1 50
C556	ECEA1HK010	1 50
C557	ECEA1EK4R7	4.7 25
C558	ECEA1EK4R7	4.7 25
C559	ECKD1H103PF	0.01 50
C560	ECKD1H103PF	0.01 50
C561	ECCD1H100KC	10P 50
C562	RCBS1H100JLY	10P 50
C601	ECEA1HK3R3	3.3 50
C602	ECEA1HK3R3	3.3 50
C603	ECKD1H101KB	100P 50
C604	ECKD1H101KB	100P 50
C605	ECKD1H102KB	0.001 50
C606	ECKD1H102KB	0.001 50
C607	ECCD1H120KC	12P 50
C608	ECCD1H120KC	12P 50
C609	ECEA1HS330	33 50
C610	ECKD1H102KB	0.001 50
C611	ECFTD473KXL	0.047 25
C612	ECFTD473KXL	0.047 25
C617	ECEA1CKS100	10 16
C618	ECEA1CKS100	10 16
C619	ECFTD473KXL	0.047 25
C621	ECFTD473KXL	0.047 25
C622	ECFTD473KXL	0.047 25
C701	ECES1HU472	4700 50
C702	ECES1HU472	4700 50
C703	ECQM1104KZW	0.1 100
C704	ECEA1VU222	2200 35
C705	ECEA1CU470	47 16
C706	ECEA1CKS100	10 16
C707	ECEA1CU101	100 16
C708 ⚠	ECEA1VU101	100 35
C709	ECEA1CU101	100 16
C710	ECKD1H103PF	0.01 50
C711	ECEA1CKS100	10 16
C712	ECEA1CU331	330 16
C713	ECEA1HN010S	1 50
C716	ECKWNS103ZVS	0.01
C718	ECKD1H103PF	0.01 50
C719	ECKD1H103PF	0.01 50
C720	ECKD1H103PF	0.01 50
C721	ECKD1H103PF	0.01 50
C722	ECEA1CU101	100 16
C801	ECBT1E103ZF	0.01 25
C802	ECEA0JK101	100 6.3
C803	ECBT1E103ZF	0.01 25
C804	ECEA0JS102	1000 6.3
C805	RCBS1H271KBY	270P 50
C806	RCBS1H271KBY	270P 50
C807	ECEA1HK2R2B	2.2 50
C808	RCBS1H271KBY	270P 50
C809	ECEA1HK2R2B	2.2 50
C811	RCBC1H101KBY	100P 50
C812	RCBC1H101KBY	100P 50
C813	RCBC1H101KBY	100P 50
C814	ECKD1H103PF	0.01 50
C815	ECKD1H103PF	0.01 50
C816	ECBT1E103ZF	0.01 25
C817	ECKD1H103PF	0.01 50
C818	ECKD1H103PF	0.01 50
C819	ECKD1H103PF	0.01 50
C820	ECKD1H103PF	0.01 50
C821	ECKD1H103PF	0.01 50
C822	ECFR1E104ZF	0.1 25
C823	ECQB1H822JZ	0.0082 50
C824	ECFR1E104ZF	0.1 25
C825	ECFR1E104ZF	0.1 25
C826	ECQB1H822JZ	0.0082 50
C827	ECEA0JK470	47 6.3
C828	ECEA0JK470	47 6.3
C829	ECFR1E104ZF	0.1 25
C830	ECFR1E104ZF	0.1 25
C831	ECEA0JS102	1000 6.3
C901	ECFTD472KXL	0.0047 25
C902	ECFTD472KXL	0.0047 25
C903	ECEA1HK010	1 50
C904	ECEA1HK010	1 50
C905	ECEA1HK010	1 50
C906	ECEA1HK010	1 50
C907	ECEA1CKS100	10 16
C908	ECEA1CKS100	10 16
C909	ECAG25ER68L	0.68 50
C910	ECAG25ER68L	0.68 50
C911	ECEA1CKS100	10 16
C912	ECEA1CKS100	10 16
C913	ECEA1CU221	220 16
C914	ECEA1AU471	470 10
C915	ECEA1CKS100	10 16
C916	ECEA1CKS100	10 16

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